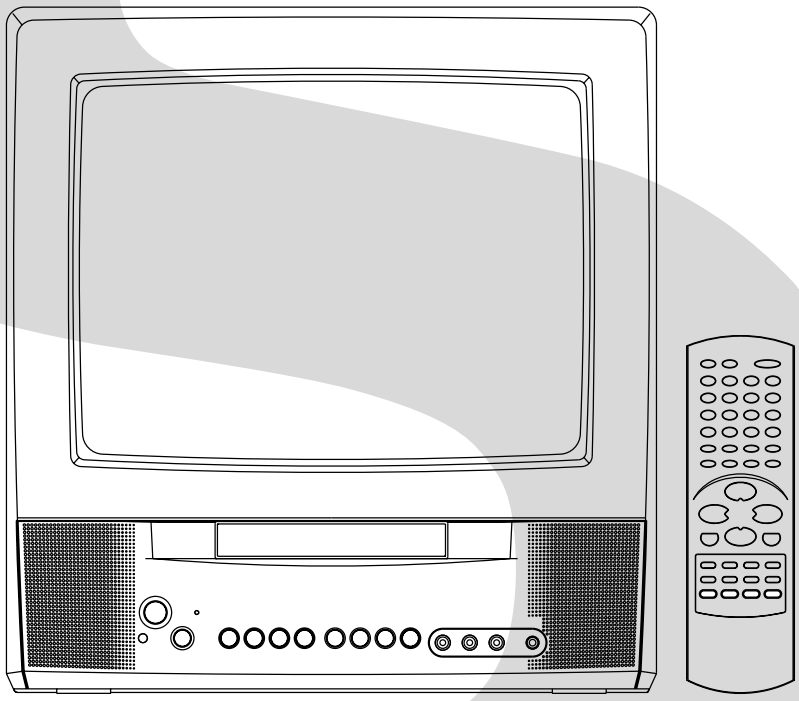
TOSHIBA

SERVICE MANUAL

COLOR TELEVISION/ DVD VIDEO PLAYER

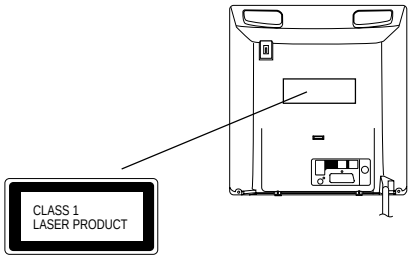
VTD1431



IMPORTANT WARNING

CAUTION:
DVD PLAYER IS A CLASS 1 LASER PRODUCT. HOWEVER THIS PLAYER USES A VISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE PLAYER CORRECTLY AS INSTRUCTED.

THE FOLLOWING CAUTION LABEL IS LOCATED ON THE REAR PANEL OF THE PLAYER.



(Printed on the Rear Panel)

WHEN THIS PLAYER IS PLUGGED TO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENING OF THE DISC TRAY AND OTHER OPENINGS TO LOOK INTO THE INSIDE OF THIS PLAYER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

3. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

4. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)
1. MODEL NUMBER and VERSION LETTER
   The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Back Cabinet and AV PCB/DVD Block. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Slide the Rack Loading (White) toward the arrow direction by using a minus driver to release the lock. **(Refer to Fig. 1)**
3. Draw the Tray.

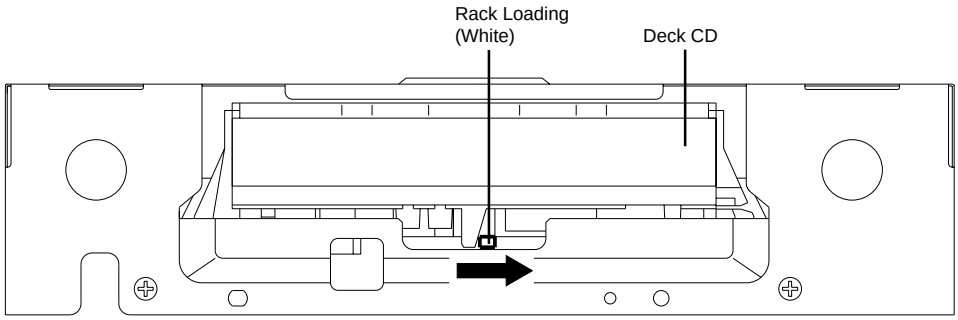


Fig. 1

PARENTAL CONTROL - RATING LEVEL

4 DIGIT PASSWORD CANCELLATION

If the stored 4 digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Turn Unit ON.
2. Press and hold the 'STOP' key on the front panel.
3. Simultaneously press and hold the '7' key on the remote control unit.
4. Hold both keys for more than 3 seconds.
5. The On Screen Display message 'PASSWORD CLEAR' will appear.
6. The 4 digit password has now been cleared.

NB: The above procedure will reset ALL of the player's settings to the default factory state.

TRAY LOCK

Tray cannot be opened by setting the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Set the DVD to the Stop Mode.
3. Press and hold the 'STOP(DVD)' key on the front panel.
4. Simultaneously press and hold the '9' key on the remote control unit.
5. Hold both keys for more than 3 seconds.
6. Press the OPEN/CLOSE key on the front panel to check the Tray Lock setting.

NB: No indications on the screen when the Tray Lock is setting.

To unlock the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Set the DVD to the Stop Mode.
3. Set the VOLUME to minimum.
4. Press and hold the 'VOL.DOWN' button on the front panel.
5. Simultaneously press and hold the '4' key on the remote control unit.
6. Hold both keys for more than 2 second.
7. The On Screen Display message 'INITIALIZE7 COMPLETE' will appear.
8. The Tray Lock has now been cleared.

NB: The above procedure will reset ALL of the player's settings to the default factory state.

PREPARATION OF SERVICING

The laser diode used for a pickup head may be destroyed with external static electricity.
Moreover, even if it is operating normally after repair, when static electricity discharge is received at the time of repair, a life of product may become short.
Please perform the following measure against static electricity, be careful of destruction of a laser diode enough at the time of repair, and work.

- It works on the desk which performed measures against static electricity, such as conductive mat.
- Soldering iron with ground wire or ceramic type is used.
- A worker needs to use a ground conductive wrist strap for body.

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GENERAL SPECIFICATIONS

G-1	**TV System**	CRT	CRT Size / Visual Size		14 inch / 335.4mmV
			CRT Type		Normal
			Deflection		90 degree
			Magnetic Field BV/BH		+0.45G / +0.18G
		Color System			PAL
		Speaker			2 Speaker
			Position		Front
			Size		1.5 x 2.7 Inch
			Impedance		8 ohm
		Sound Output	MAX		1.5W + 1.5W
			10%(Typical)		1.5W + 1.5W
G-2	**DVD System**	Color System			PAL
		Disc			DVD, CD-DA, CD-R/RW, Video CD, SVCD
		Disc Diameter			120 mm , 80 mm
		Deck	Disc Loading System		Front Loading
			Motor		2 Motors
		Pick up			1-Lens 2-Beams System
		Playback time(Max)	DVD 1-Layer		135min (4.7GB)
			DVD 2-Layer		245min (8.5GB)
			CD		74min
			Video CD		74min
		Search speed	Fwd		4 step
				Actual	2-45 times (DVD, VIDEO CD)
					4-40 times (CD)
			Rev		4 step
				Actual	2-45 times (DVD, VIDEO CD)
					4-40 times (CD)
		Slow speed	Fwd		1/7 -1/2 times
				Actual	--
			Rev		1/7 -1/2 times
				Actual	--
G-3	**Tuning System**	Broadcasting System			U.K. System I
		Tuner and Receive CH	System		1Tuner
			Destination		U.K.
			Tuning System		F-Synth
			Input Impedance		UHF 75 Ohm
			CH Coverage		21~69
		Intermediate Frequency	Picture(FP)		39.5MHz
			Sound(FS)		33.5MHz
			FP-FS		6.0MHZ
		Auto Tuning Method			--
		Preset CH			80CH
		Stereo/Dual TV Sound			No
		Tuner Sound Muting			Yes
G-4	**Signal**	Video Signal	Input Level		1 V p-p/75 ohm
			Output Level		1 V p-p/75 ohm
			S/N Ratio (Weighted) at DVD Mode		65dB
			Horizontal Resolution at DVD Mode		400 Lines
		RGB Signal	Output Level		-
		Audio Signal	Input Level		-3.8dBm/50k ohm
		TV	Output Level (0dB=0.775Vrms)		-3.8dBm/1k ohm
		DVD	Output Level (-20dBFs 0dBFs=2.0Vrms)		-12.0dBm/1k ohm
			Digital Output Level		0.5 V p-p/75 ohm(DVD)
			S/N Ratio at DVD (Weighted)		90 dB
			Harmonic Distortion at DVD Mode		0.06% (1kHz)
			Frequency Response :		
			DVD Mode	at DVD	4Hz - 22kHz
				at VIDEO CD	4Hz - 20kHz
				at SVCD	4Hz - 20kHz
				at CD	4Hz - 20kHz
G-5	**Power**	Power Source	AC		230V~240V 50Hz
			DC		-
		Power Consumption		at AC	55 W at 230 V 50 Hz
				at DC	-
			Stand by (at AC)		8 W at 230 V 50 Hz
			Per Year		-
		Protector	Power Fuse		Yes
			Safety Circuit		Yes
			IC Protector(Micro Fuse)		No
G-6	**Regulation**		Safety		CE,BEAB
			Radiation		CE
			X-Radiation		NONE
G-7	**Temperature**		Operation		+5oC ~ +40oC
			Storage		-20oC ~ +60oC
G-8	**Operating Humidity**				Less than 80% RH

GENERAL SPECIFICATIONS

G-9	**On Screen Display**	Menu			Yes
			Menu Type		Character
			CH Tuning		Yes
				Manual	Yes
				Auto	Yes
				CH Allocation	Yes
			Picture		Yes
				Contrast	Yes
				Brightness	Yes
				Color	Yes
				Tint (NTSC Only)	Yes
				Sharpness	Yes
			Audio		No
				Bass	No
				Treble	No
				Balance	No
			AV Color System		Yes
			Language		No
			Clock Set		No
			On Timer Set		No
			Off Timer Set		No
			Sound System		No
			Control Level		Yes
				Brightness	Yes
				Contrast	Yes
				Color	Yes
				Sharpness	Yes
				Tint (NTSC Only)	Yes
				Volume	Yes
				Tuning	Yes
				Bass	No
				Treble	No
				Balance	No
			NICAM ST		No
			G(A2)Stereo		No
			CH/AV/DVD		Yes
			Skip		Yes
			Channel		Yes
			Sleep Timer		No
			Sound Mute		Yes

GENERAL SPECIFICATIONS

G-10	**On Screen Display**	Menu (DVD)			Yes
			Menu Type		Character
			Language		Yes
				Menu	Yes
				Subtitle	Yes
				Audio	Yes
			Picture		Yes
				TV Screen Size	Yes
				OSD Display On/Off	Yes
				JPEG Interval	Yes
				Select Files	Yes
			Sound		Yes
				DRC (Dynamic Range Control)	Yes
				dts Decode	No
				Output(5.1ch/ 2ch)	No
				Surround On/Off	No
				Center On/Off	No
				Sub Woofer On/Off	No
			Parental		Yes
				Password Lock/ Un Lock	Yes
				Rating Level	Yes
			Other		No
				OSD Language(Set up Language)	No
				Output(RGB/Composite)	No
			Open		Yes
			Close		Yes
			No disc		Yes
			Reading		Yes
			Play		Yes
			Still/Pause		Yes
			Stop		Yes
			Prohibit Mark		Yes
			Step		Yes
			Skip(>>|)		Yes
			Skip(|<<)		Yes
			Random		Yes (CD, VIDEO CD, MP3, WMA, JPEG)
			Repeat		Yes
			Slow+ ##		Yes
			Slow- ##		Yes
			Search+ ##		Yes
			Search- ##		Yes
			Jump		Yes
			Resume		Yes
			Title No.		Yes
			Chapter No.		Yes
			Track No.		Yes
			Time		Yes
			Sub Title No.		Yes
			Angle No.		Yes
			Vocal On/Off		Yes
			Audio No.		Yes
			Audio Stereo L/R		Yes (Video CD)
			Zoom		Yes
			Marker No.		Yes
			Program Play Back		Yes (CD, VIDEO CD, MP3, WMA, JPEG)
			Surround On/Off		No
			Screen Saver		No
			MP3, WMA, JPEG	Folder Name	Yes
				File Name	Yes
				File No	Yes
				Time	Yes (MP3, WMA Only)
				Track No	Yes
G-11	**OSD Language**	(TV)			English
		(DVD)			English
G-12	**Clock and Timer**	Sleep Timer	Max Time		- Min
			Step		- Min
		On/Off Timer	Program(On Timer / Off Timer)		No
		Wake Up Timer			No
		Timer Back-up (at Power Off Mode)	more than		-- Min Sec

GENERAL SPECIFICATIONS

G-13	**Remote Control Unit**	Unit		RC-HF
		Glow in Dark Remocon		Yes
		Format		NEC
		Custom Code		71-8E
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-4 x 2 pcs
		Total Keys		45 Keys
		Keys	Power	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0/AV	Yes
			Open/Close	Yes
			Play	Yes
			Stop	Yes
			Display/Call	Yes
			TV/DVD	Yes
			Cancel	Yes
			Audio	Yes
			Angle	Yes
			Subtitle	Yes
			Subtitle On/Off	No
			Title	Yes
			Setup/Menu	Yes
			Return	Yes
			DVD Menu	Yes
			Left/Select-	Yes
			Right/Select+	Yes
			Select/Enter	Yes
			Maker	Yes
			Repeat Mode	No
			Volume+	Yes
			Volume-	Yes
			Repeat A-B	Yes
			Zoom/ Quick View	Yes
			Mute	Yes
			Sleep	No
			Jump	Yes
			Text/Mix/TV	Yes
			Search+	No
			Search+ / Sub Page	Yes
			Search-	No
			Search- / Reveal	Yes
			Skip+	No
			Skip+ / F/T/B	Yes
			Skip-	No
			Skip- / Hold	Yes
			Slow+	No
			Slow+ / Cyan	Yes
			Slow-	No
			Slow- / Red	Yes
			Still/Pause	No
			Still/Pause / Green	Yes
			Up/ Set+/ CH Up	No
			Up/ Set+/ CH Up/ Page Up	Yes
			Down/ Set-/ CH Down	No
			Down/ Set-/ CH Down/ Page Down	Yes
			Play Mode	No
			Play Mode/ Yellow	Yes

GENERAL SPECIFICATIONS

G-14	**Features**	Auto Shut Off		Yes
		Auto Search		Yes
		Auto Setup		Yes
		CH Allocation		Yes
		Auto CH Memory		Yes
		Protect of FBT Leak Circuit		Yes
		Power On Memory		Yes
		T'Text		Yes
			Text type	Fastext
			Text Language	English, French, Swedish, Hunganan, Finnish Turkish, German, Dutch, Portuguese, Spanish Italian, Greek
		Tray Lock		Yes
		Parental Lock (DVD Only)		Yes
		VIDEO CD Playback		Yes
		SVCD Playback		Yes
			Overlay Graphics And Text	No
			Command List	No
			Entry Point Jump	No
		MP3 Playback		Yes
		WMA Playback		Yes
		JPEG Playback		Yes
		Digital Out	(Dolby Digital)	Yes
			(MPEG)	Yes
			(PCM)	Yes
			(DTS)	Yes
		Down Mix Out	(Dolby Digital)	Yes
			(DTS)	No
		TruSurround		No
		Screen Saver		No
		Audio DAC		192kHz / 24bit
G-15	**Accessories**	Owner's Manual	Language	English
			w/Guarantee Card	No
		Remote Control Unit		Yes
		Rod Antenna		No
			Poles	-
			Terminal	-
			w/300 ohm to 75 ohm Antenna Adapter	-
		Loop Antenna		Yes
			Terminal	Din type
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Guarantee Card		No
		Warning Sheet		No
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Information Sheet		No
		Important Safeguard		No
		Dew/AHC Caution Sheet		No
		AC Plug Adapter		No
		Quick Set-up Sheet		Yes
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
			OEM Brand	No
		AC Cord		No
		AV Cord (2Pin-1Pin)		No
		21pin-RCA Cable		No
		RF Cable		No
		Registration Card		Yes
		PTB Sheet		No
		Anti-Theft Sheet		No
		Euro Warranty Information Sheet		No
		Helpline Sheet		Yes

GENERAL SPECIFICATIONS

G-16	**Interface**	Switch	Front	Power(Tact)	No
				Channel Up	Yes
				Channel Down	Yes
				Volume Up	Yes
				Volume Down	Yes
				Play	Yes
				Stop	Yes
				Skip+/Search+	Yes
				Skip-/Search-	Yes
				Open/Close	Yes
				Still/Pause	No
				Main Power SW	Yes
		Indicator		Power	No
				Stand-by	Yes (Red)
				On Timer	No
		Terminals	Front	Video Input	RCA x 1
				Audio Input	RCA x 2
				Other Terminal	Headphone (Stereo & Mono, 3.5mm)
			Rear	Video Input	No
				Audio Input	No
				Video Output	No
				Audio Output	No
				Digital Audio Output	Coaxial (DVD Only)
				Euro Scart	1-SCART
				Diversity	No
				DC Jack 12V(Center +)	No
				VHF/UHF Antenna Input	DIN type
G-17	**Set Size**			Approx. W x D x H (mm)	362 x 365 x 382
G-18	**Weight**			Net (Approx.)	11.0kg (24.3lbs)
				Gross (Approx.)	12.5kg (27.6lbs)
G-19	**Carton**		Master Carton		No
				Content	-
				Material	-
				Dimensions W x D x H(mm)	-
				Description of Origin	-
			Gift Box		Yes
				Material	Double/White
				Dimensions W x D x H(mm)	423 x 447 x 443
				Design	As per Buyer's
				Description of Origin	Yes
			Drop Test	Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces
				Height (cm)	62
			Container Stuffing(40' container)		700 Sets
G-20	**Material**		Cabinet	Front	PS 94HB
				Rear	PS 94V0 Non-DECABROM
				Jack Panel	-
			PCB	Non-Halogen Demand	Yes
				Eyelet	Yes
G-21	**Environment**		Pb Free	Lead-free Solder	No
				Other	No
			Cd Free		No

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: BACK CABINET (Refer to Fig. 1-1)

1. Remove the 4 screws ①.
2. Remove the screw ② which are used for holding the Back Cabinet.
3. Remove the AC cord from the AC cord hook ③.
4. Remove the Back Cabinet in the direction of arrow.

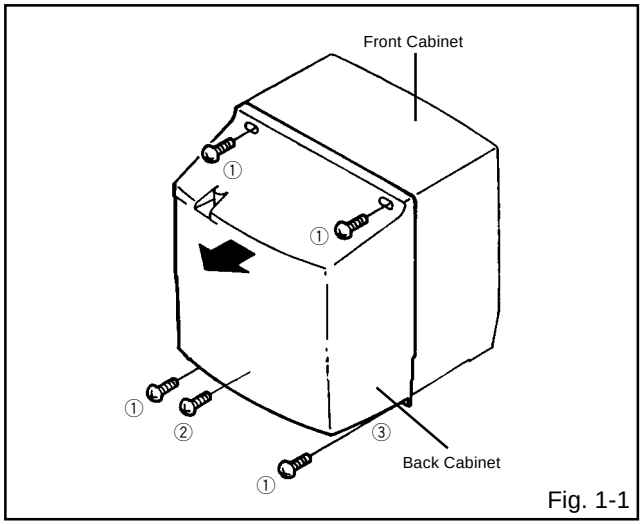


Fig. 1-1

1-2: CRT PCB (Refer to Fig. 1-2)

CAUTION: BEFORE REMOVING THE ANODE CAP, DISCHARGE ELECTRICITY BECAUSE IT CONTAINS HIGH VOLTAGE. BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE AC SOURCE.

1. Remove the Anode Cap. (Refer to REMOVAL OF ANODE CAP)
2. Disconnect the following connector: (CP801).
3. Remove the CRT PCB in the direction of arrow.

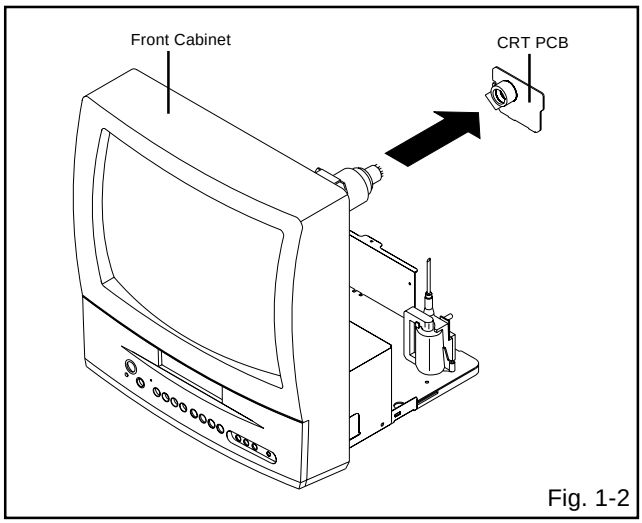


Fig. 1-2

1-3: AV PCB/DVD BLOCK (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Disconnect the following connectors: (CP301, CP302, CP402 and CP3801).
3. Remove the AV PCB/DVD Block in the direction of arrow.

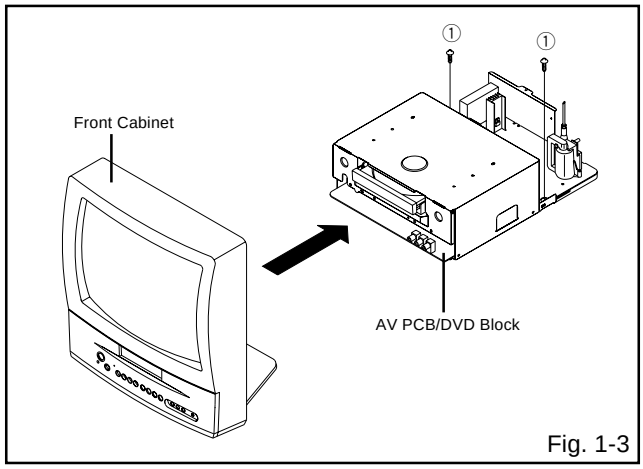


Fig. 1-3

1-4: DVD BLOCK (Refer to Fig. 1-4)

1. Remove the 11 screws ①.
2. Remove the Top Shield in the direction of arrow (A).
3. Disconnect the following connectors: (CP8001 and CP8002).
4. Remove the 4 screws ②.
5. Remove the DVD Block in the direction of arrow (B).
6. Remove the 2 screws ③.
7. Remove the Jack Shield.
8. Remove the AV PCB in the direction of arrow (C).

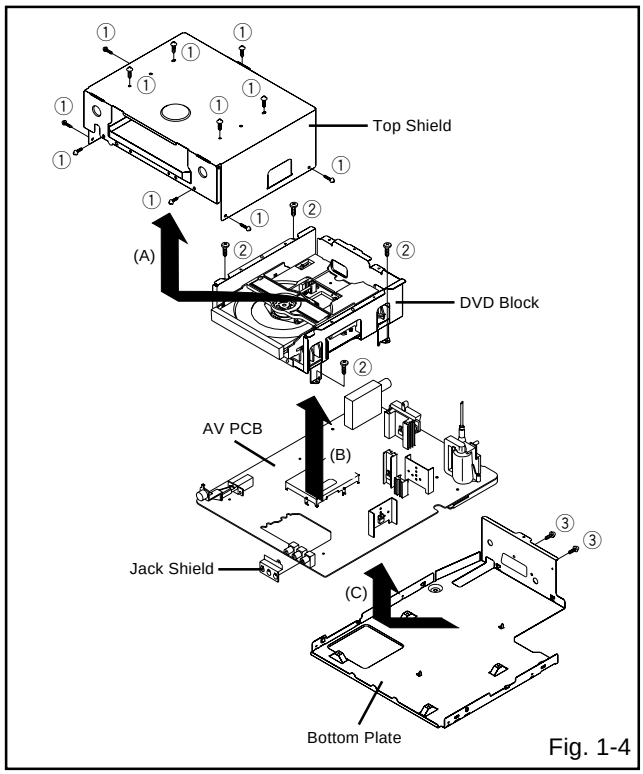


Fig. 1-4

DISASSEMBLY INSTRUCTIONS

1-5: DVD PCB/DVD DECK (Refer to Fig. 1-5)

1. Make the short circuit on the position as shown **Fig. 1-5** using a soldering. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Unlock the 2 supports ①.
3. Remove the Front Tray Plate in the direction of arrow (A).
4. Disconnect the following connectors: (CP2601, CP2602 and CP2603).
5. Remove the 4 screws ②.
6. Remove the DVD Deck in the direction of arrow (B).
7. Remove the 4 screws ③.
8. Remove the DVD PCB in the direction of arrow (C).

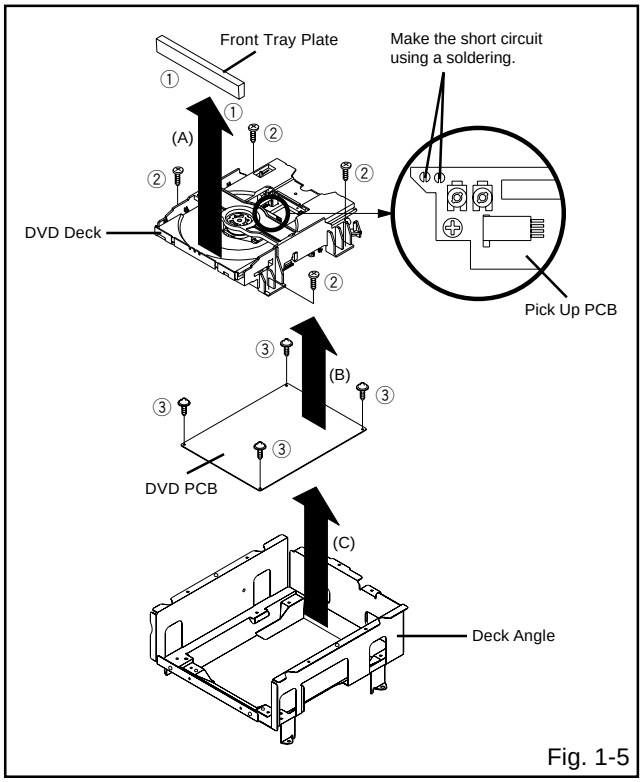


Fig. 1-5

NOTE

When the installation of the DVD Deck, remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF DVD DECK PARTS

NOTE

1. Do not disassemble the DVD DECK PARTS except listed parts here. Minute adjustments are needed if the disassemble is done. If the repair is needed except listed parts, replace the DVD MECHA ASS'Y.

2-1: TRAY (Refer to Fig. 2-1-A)

1. Set the Tray opened. **(Refer to the DISC REMOVAL METHOD AT NO POWER SUPPLY)**
2. Unlock the support ① and remove the Tray.

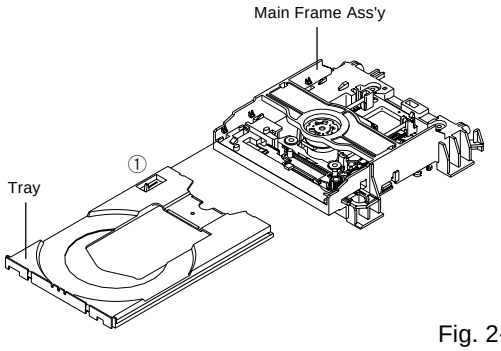


Fig. 2-1-A

NOTE

1. In case of the Tray installation, install them as the circled section of Fig. 2-1-B so that the each markers are met.

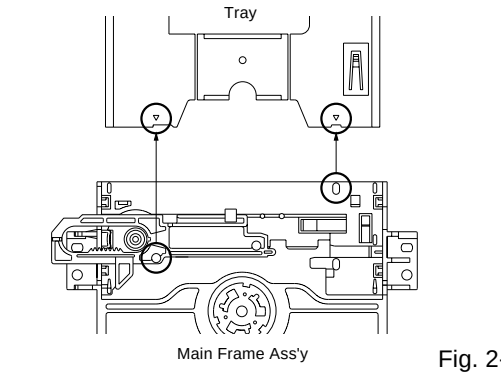


Fig. 2-1-B

2-2: MAIN CHASSIS ASS'Y (Refer to Fig. 2-2-A)

1. Remove the Main Chassis Ass'y from the Insulator (R).
2. Unlock the support ①.
3. Remove the Main Chassis Ass'y.

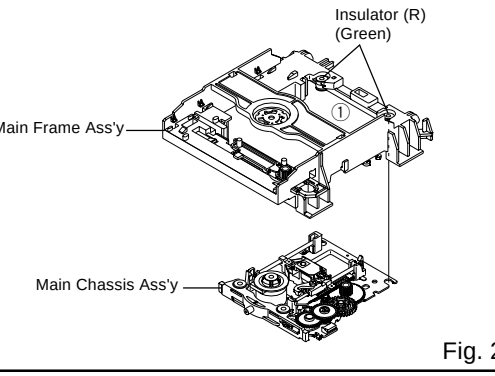


Fig. 2-2-A

NOTE

1. In case of the Main Chassis Ass'y, install it from (1) to (6) in order. **(Refer to Fig. 2-2-B)**

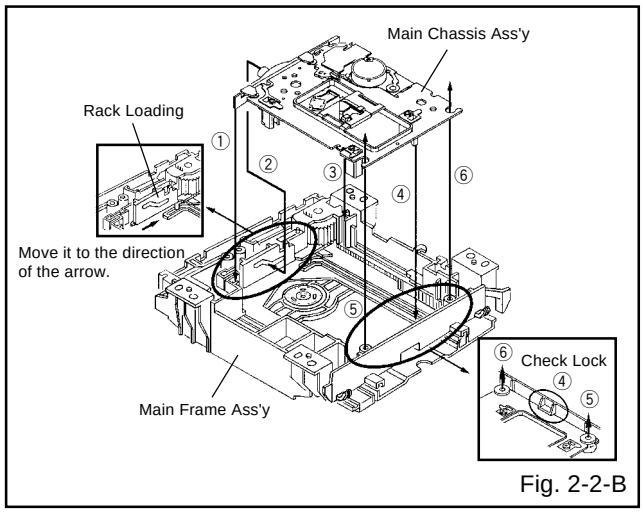


Fig. 2-2-B

2-3: RACK LOADING/MAIN GEAR/ RACK LOADING SPRING (Refer to Fig. 2-3)

1. Remove the Rack L Spring.
2. Press down the catcher ① and slide the Rack Loading.
3. Remove the Rack Loading, Rack Loading Spring and Main Gear.

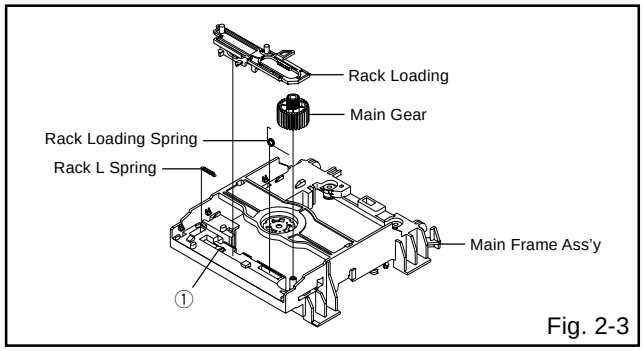


Fig. 2-3

2-4: CLAMPER ASS'Y/INSULATOR(R)/LEVER SWITCH (Refer to Fig. 2-4-A)

1. Remove the screw ①.
2. Remove the Lever Switch.
3. Remove the 2 Insulator (R).
4. Press the Clamper and rotate the Clamper Plate clockwise, then unlock the 3 supports ②.
5. Remove the Clamper Plate, Clamper Magnet and Clamper.

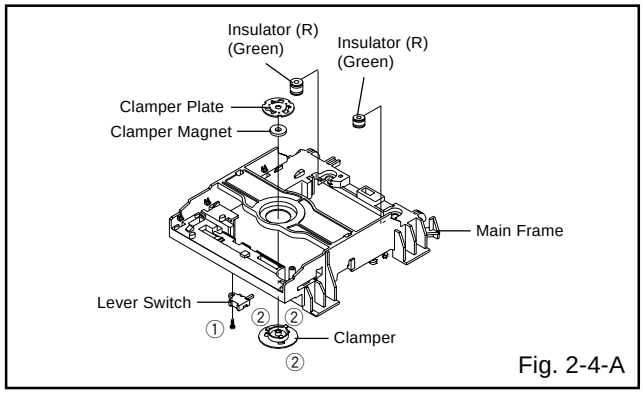


Fig. 2-4-A

DISASSEMBLY INSTRUCTIONS

NOTE

1. When installing the Clamper Magnet, install it with the green face up.
2. When installing the wire of the Lever Switch, install it correctly as Fig. 2-4-B.
3. When installing the Lever Switch, install it correctly as Fig. 2-4-C.
4. In case of the Lever Switch installation, hook the wire on the Main Frame as shown Fig. 2-4-D.

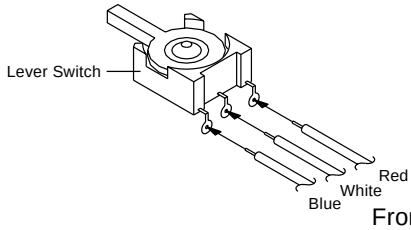


Fig. 2-4-B

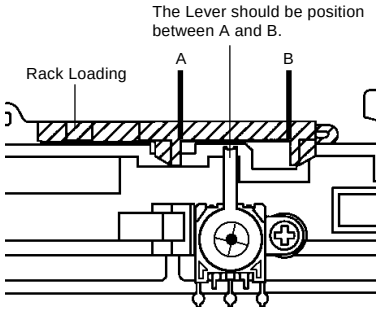


Fig. 2-4-C

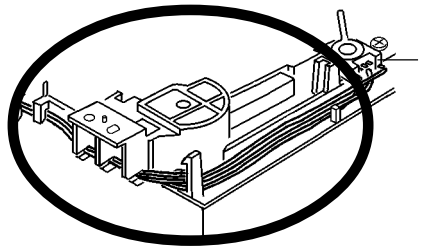


Fig. 2-4-D

2-5: TRAVERSE HOLDER/INSULATOR (F) (Refer to Fig. 2-5-A)

1. Remove the Traverse Holder.
2. Remove the 2 Insulator (F).

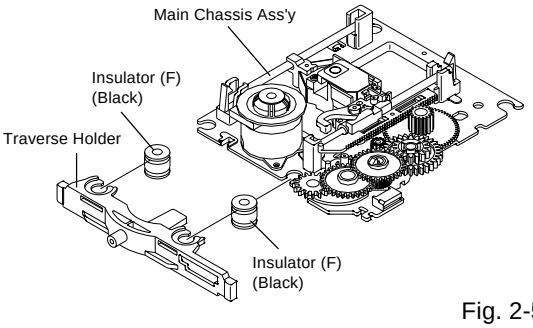


Fig. 2-5-A

NOTE

1. After the installing of the Traverse Holder, check if the wire is like Fig. 2-5-B.

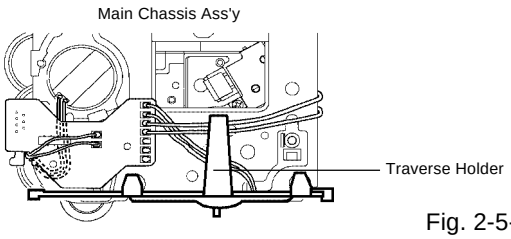


Fig. 2-5-B

2-6: SWITCH PCB ASS'Y (Refer to Fig. 2-6-A)

1. Remove the screw ①.
2. Remove the Switch PCB Ass'y.

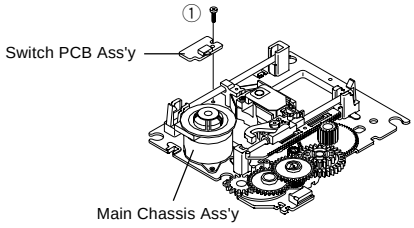


Fig. 2-6-A

NOTE

1. When installing the wire of the Switch PCB, install it correctly as Fig. 2-6-B.

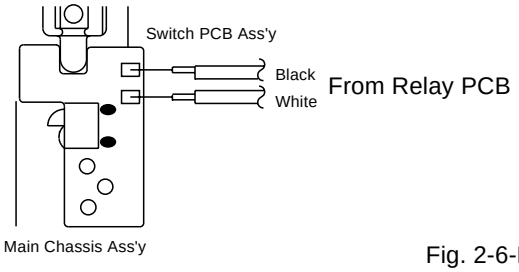


Fig. 2-6-B

2-7: RACK FEED ASS'Y (Refer to Fig. 2-7-A)

1. Remove the screw ①.
2. Remove the Rack Feed 1 Spring, Rack Feed 1/2 and Rack Feed Lever.

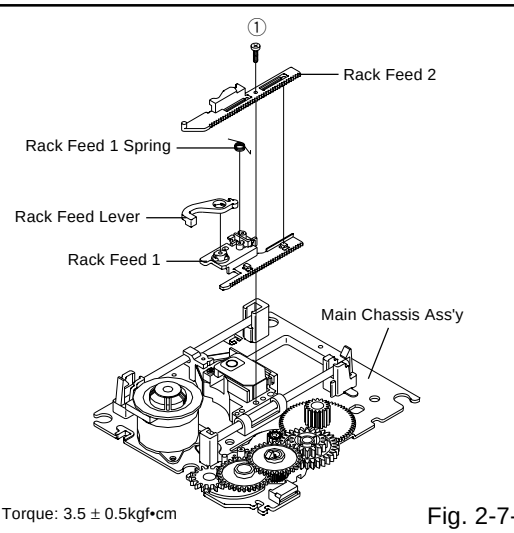


Fig. 2-7-A

DISASSEMBLY INSTRUCTIONS

NOTE

1. After the assembly of the Rack Feed, check if the Rack Feed 1/2 is moving smoothly. **(Refer to Fig. 2-7-B)**
2. In case of the Rack Feed Ass'y installation, install correctly as Fig. 2-7-C.

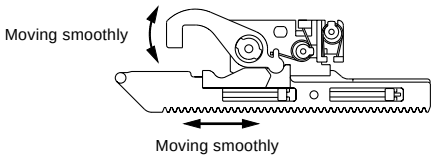


Fig. 2-7-B

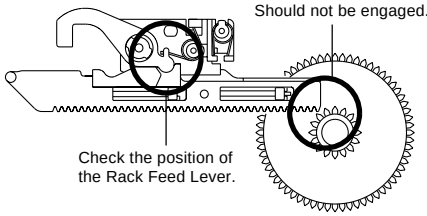


Fig. 2-7-C

2-8: RELAY PCB ASS'Y (Refer to Fig. 2-8-A)

1. Remove the screw ①.
2. Remove the Relay PCB Ass'y.

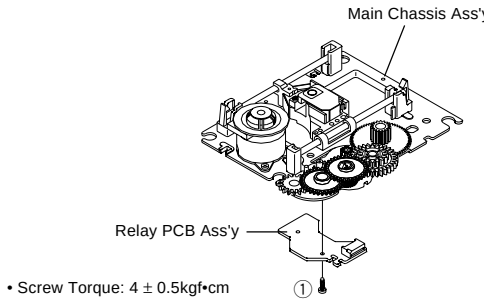


Fig. 2-8-A

NOTE

1. When installing the wire of the Relay PCB, install it correctly as Fig. 2-8-B.

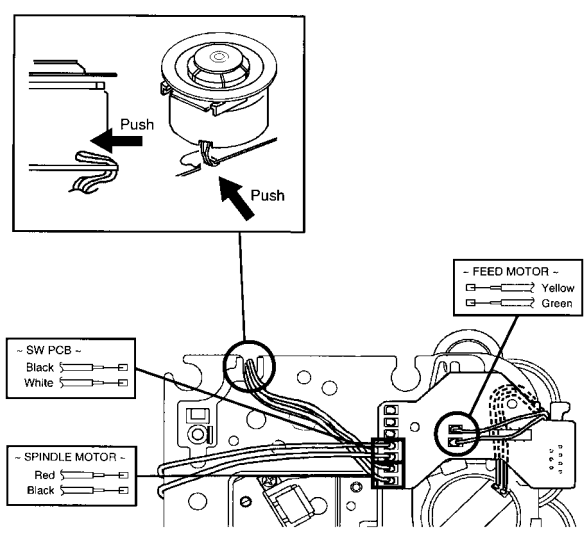


Fig. 2-8-B

2-9: GEAR (Refer to Fig. 2-9-A)

1. Unlock the support ①.
2. Remove the Middle Gear 1/2/3, Idler Gear and Feed Gear.

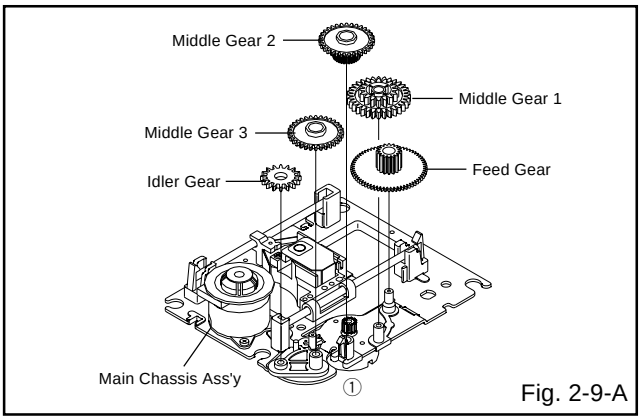


Fig. 2-9-A

NOTE

1. In case of the Idler Gear installation, install correctly as Fig. 2-9-B.
2. When installing the Middle Gear 2, check if the Middle Gear 2 is locked correctly as Fig. 2-9-C.

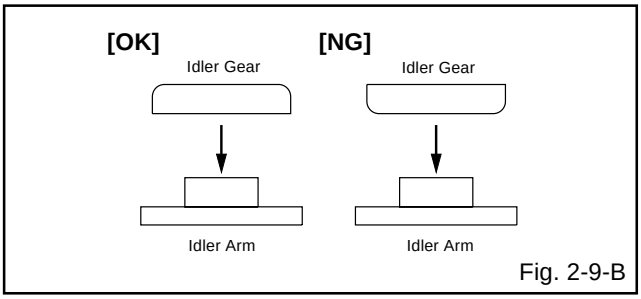


Fig. 2-9-B

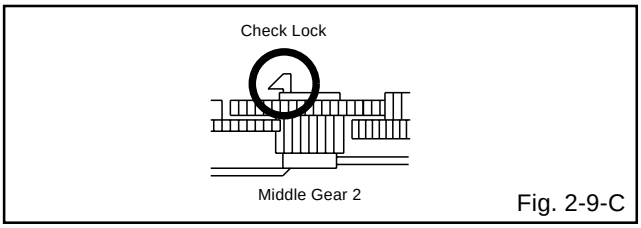


Fig. 2-9-C

2-10: IDLER ARM (Refer to Fig. 2-10)

1. Remove the Idler Arm.

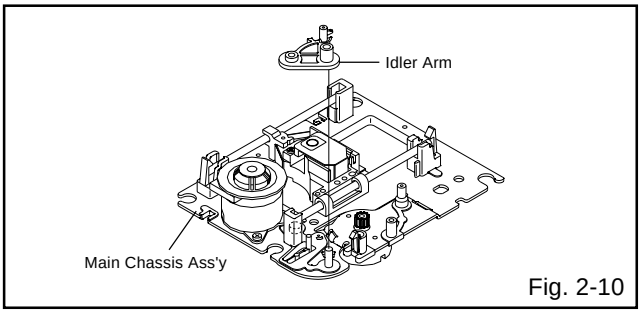
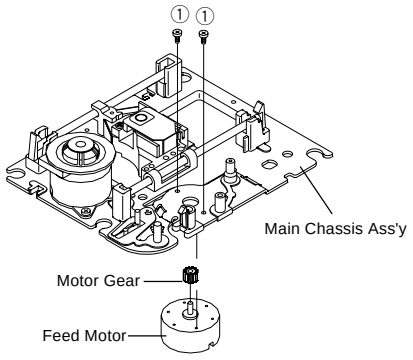


Fig. 2-10

DISASSEMBLY INSTRUCTIONS

2-11: FEED MOTOR (Refer to Fig. 2-11-A)

1. Remove the 2 screws ①.
2. Remove the Feed Motor.
3. Remove the Motor Gear.



• Screw Torque: 1 ± 0.5kgf•cm

Fig. 2-11-A

NOTE

1. In case of the Motor Gear installation, check if the value of the Fig. 2-11-B is correct.
2. When installing the Feed Motor, check if the cable is positioned as Fig. 2-11-C.

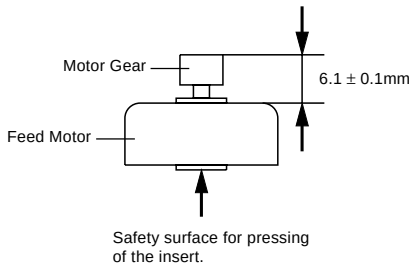


Fig. 2-11-B

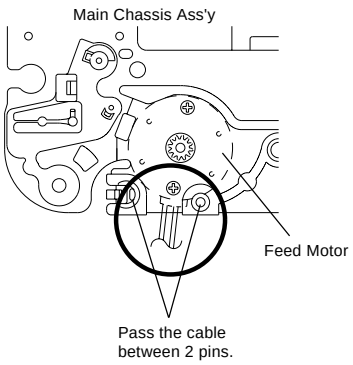


Fig. 2-11-C

DISASSEMBLY INSTRUCTIONS

3. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 3-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

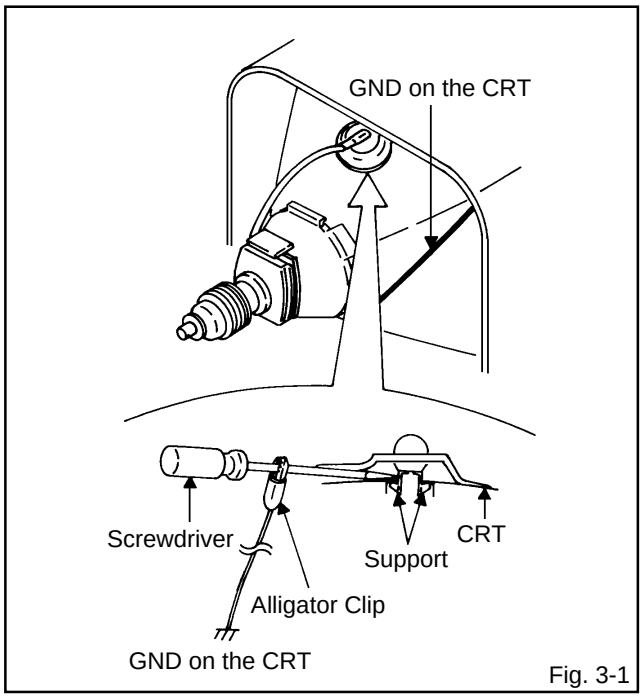


Fig. 3-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 3-2.)**

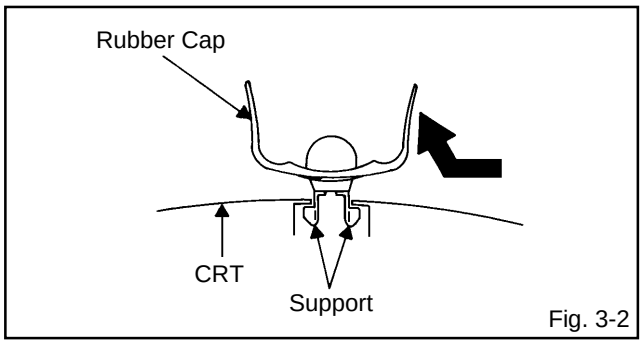


Fig. 3-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 3-3.)**

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

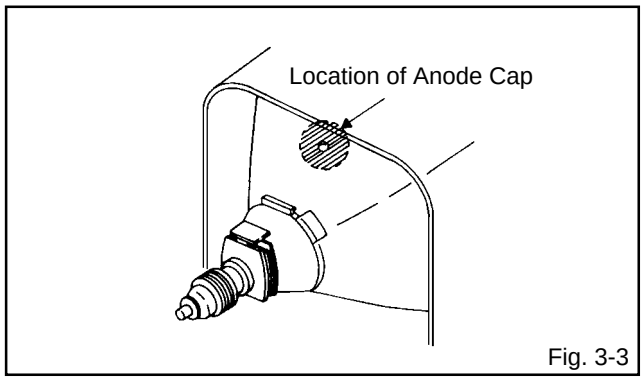


Fig. 3-3

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 3-4.)**

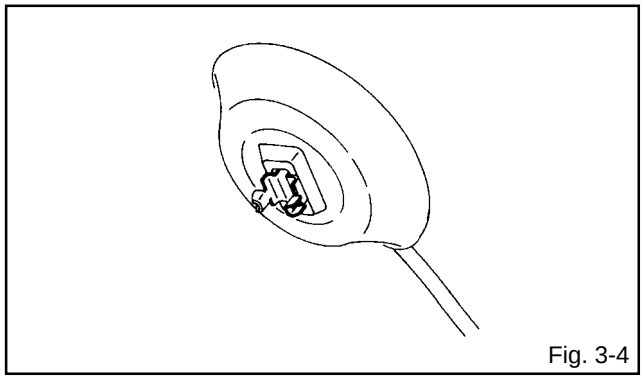


Fig. 3-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 3-5**.

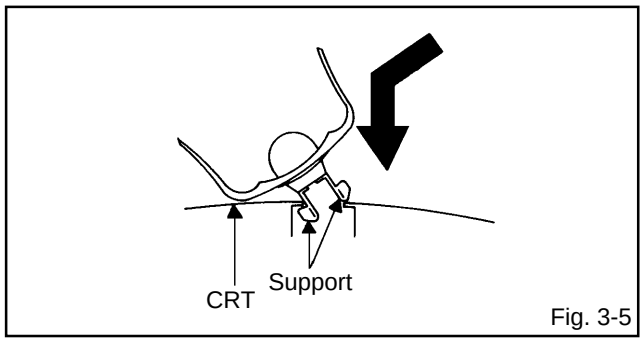


Fig. 3-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

DISASSEMBLY INSTRUCTIONS

4. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 4-1.)**

   NOTE

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

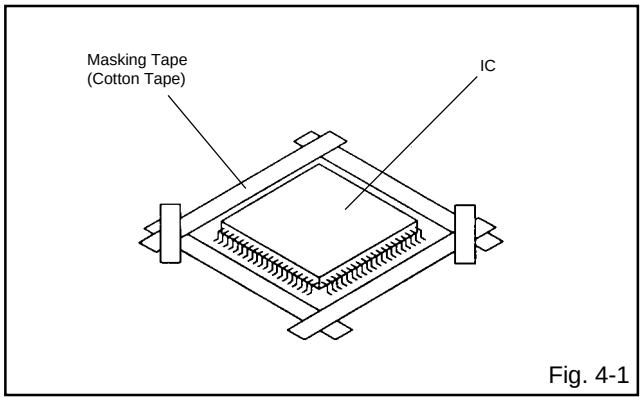


Fig. 4-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 4-2.)**

   NOTE

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

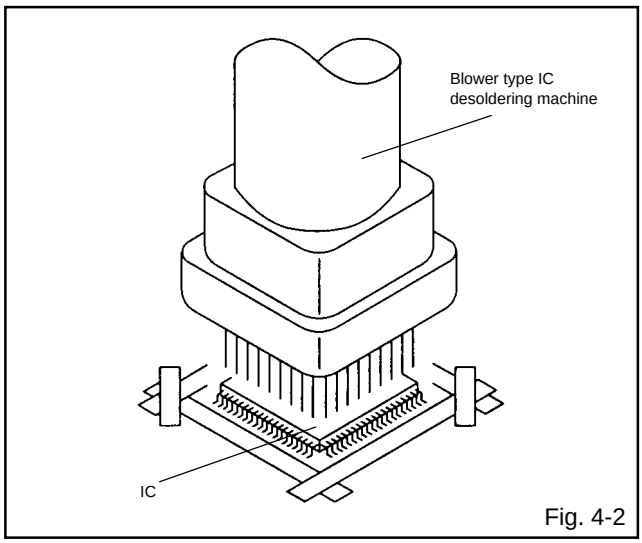


Fig. 4-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 4-3.)**

   NOTE

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

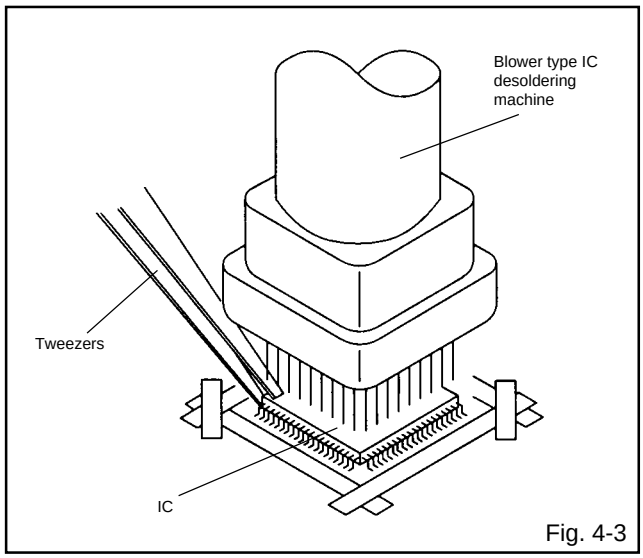


Fig. 4-3

4. Peel off the Masking Tape.

5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 4-4.)**

   NOTE

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

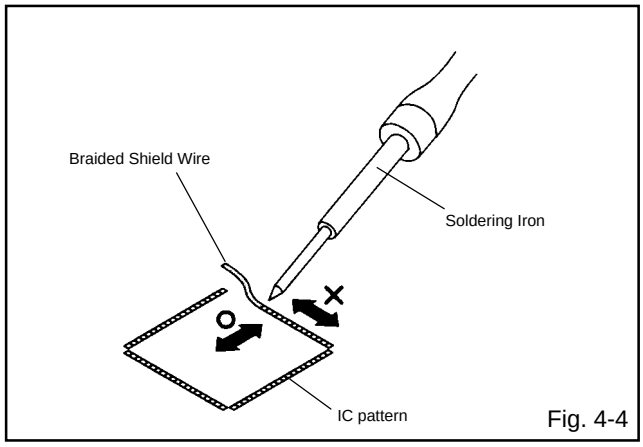


Fig. 4-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 4-5.)**

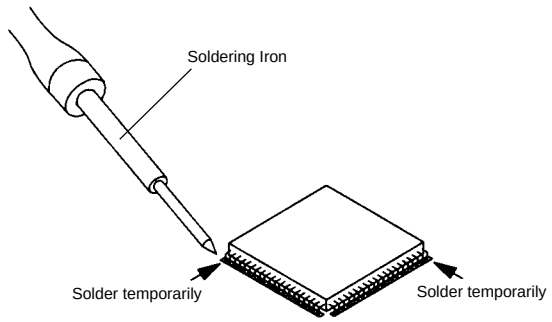


Fig. 4-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 4-6.)**

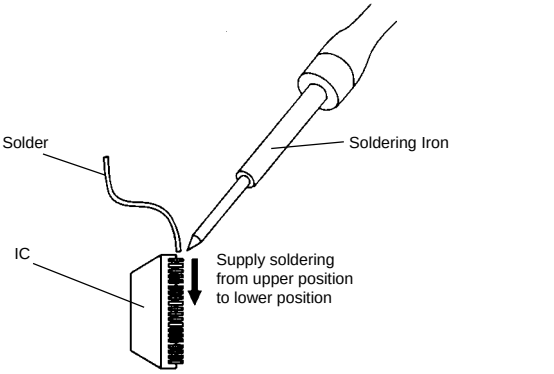


Fig. 4-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 4-7.)**

   NOTE

   Do not absorb the solder to excess.

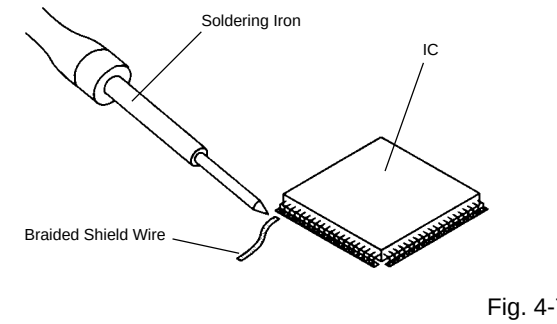


Fig. 4-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 4-8.)**

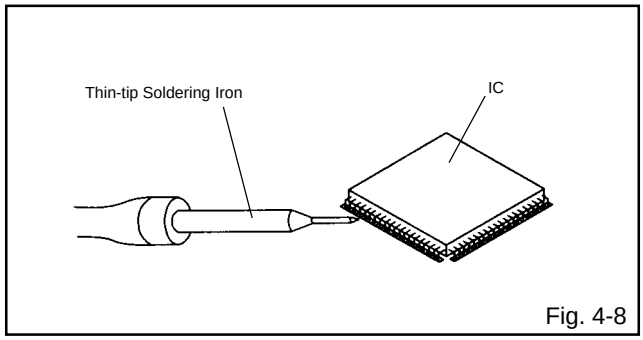


Fig. 4-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   NOTE

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, always be sure to replace the IC in this case.

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit and on the remote control for more than a standard time (second).

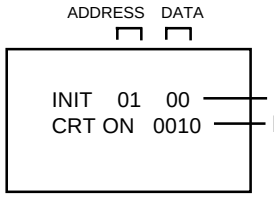
Set Key	Remocon Key	Standard Time (seconds)	Operations
VOL. (-) MIN	0	2	Reset the user setting items (PICTURE, VOLUME and LANGUAGE) to the initial state for delivery.
VOL. (-) MIN	1	2	Initialization of the factory on TV. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
VOL. (-) MIN	4	2	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing. The function will only work without the setting of DVD disc at DVD mode.
VOL. (-) MIN	6	2	POWER ON total hours are displayed on the screen. Refer to the "CONFIRMATION OF HOURS USED" Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	9	2	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).
STOP	7	3	Releasing of PARENTAL LOCK. Refer to the “PARENTAL CONTROL - RATING LEVEL”. NOTE: The function will only work without the setting of DVD disc at DVD mode.
STOP	9	3	Tray cannot be opened. Refer to the “TRAY LOCK”. NOTE: No indications on the screen when the Tray Lock is setting.

CONFIRMATION OF HOURS USED

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds.
3. After the confirmation of using hours, turn off the power.



Initial setting content of MEMORY IC.
POWER ON total hours.
= (16 x 16 x 16 x thousands digit value)
+ (16 x 16 x hundreds digit value)
+ (16 x tens digit value)
+ (ones digit value)

FIG. 1

WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE: No need setting for after INI 16 due to the adjustment value.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	---	00	01	22	3F	B8	A0	40	40	01	60	0C	13	00	00	07
10	50	00	00	00	55	42	01	---	---	---	---	---	---	---	---	---

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds. ADDRESS and DATA should appear as FIG 1.

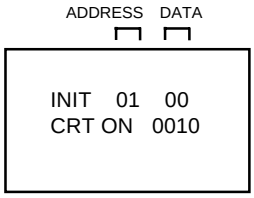


FIG. 1

3. ADDRESS is now selected and should "blink". Using the RIGHT/LEFT button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using RIGHT/LEFT button until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input. **After the data input, set to the initializing of shipping.**
9. Turn POWER on.
10. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
11. After the finishing of the initializing of shipping, the unit will turn off automatically.

The unit will now have the correct DATA for the new MEMORY IC.

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

CAUTION

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor).

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Pattern Generator

On-Screen Display Adjustment

1. Set the volume level to minimum.
2. Press the VOL. DOWN button on the set and the channel button **(9)** on the remote control for more than 2 seconds to display adjustment mode on the screen as shown in **Fig. 1-1**.

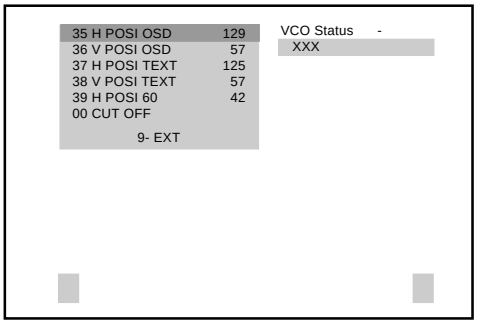


Fig. 1-1

3. Use the Channel UP/DOWN button or Channel button **(0-9)** on the remote control to select the options shown in **Fig. 1-2**.
4. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	CUT OFF	20	TINT
01	RF AGC	21	SHARP
02	AGC GAIN	22	CONT CENT
03	R DRIVE	23	CONT MAX
04	R CUTOFF	24	CONT MIN
05	G DRIVE	25	COLOR CENT
06	G CUTOFF	26	COLOR MAX
07	B DRIVE	27	COLOR MIN
08	H POSI 50	28	M R CUT OFF
09	V POSI 50	29	M G CUT OFF
10	V POSI 60	30	M B CUT OFF
11	V SIZE 50	31	CVBS OUT
12	V SIZE 60	32	APR THR
13	VCO COARSE	33	BELL
14	VCO FINE	34	BANDPASS
15	---	35	H POSI OSD
16	---	36	V POSI OSD
17	BRIGHT CENT	37	H POSI TXT
18	BRIGHT MAX	38	V POSI TXT
19	BRIGHT MIN	39	H POSI 60

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: CONSTANT VOLTAGE

1. Connect the digital voltmeter to **TP401**.
2. Set condition is AV MODE without signal.
3. Using the remote control, set the brightness and contrast to normal position.
4. Adjust the **VR3801** until the digital voltmeter is 135 ± 0.5V.

2-2: VCO

1. Place the set with Aging Test for more than 10 minutes.
2. Connect the oscillator (39.5MHz) to **TP101**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select "VCO COARSE".
4. Press the LEFT/RIGHT button on the remote control until the "OK" appear on the screen. If the "OK" is not displayed, select the "-" side on the changed from "+" to "-".
5. Press the CH UP button once to set to "VCO FINE" mode.
6. Press the LEFT/RIGHT button on the remote control to select the 5 step down point from the upper limit on the "OK".
   (Example: In case of the "OK" point 41, select 36.)

2-3: RF AGC

1. Receive the UHF (63dB).
2. Place the set with Aging Test for more than 15 minutes.
3. Connect the digital voltmeter between the **pin 5 of CP101** and the **pin 1 of CP101**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(01)** on the remote control to select "RF AGC".
5. Press the LEFT/RIGHT button on the remote control until the digital voltmeter is 2.4 ± 0.05V.

ELECTRICAL ADJUSTMENTS

2-4: FOCUS

1. Receive a broadcast.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

2-5: HORIZONTAL POSITION

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(08)** on the remote control to select "H POSI 50".
4. Press the LEFT/RIGHT button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.
5. Receive the cross hatch signal of NTSC. (Audio Video Input)
6. Press the AV button on the remote control to set to the AV mode.
7. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(39)** on the remote control to select "H POSI 60".
8. Press the LEFT/RIGHT button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-6: VERTICAL POSITION

NOTE: Adjust after performing adjustments in section 2-5.

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(09)** on the remote control to select "V POSI (50)".
4. Check if the step No. V. POSI (50) is "10".
5. Adjust the **VR402** until the horizontal line becomes fit to the notch of the shadow mask.
6. Receive the cross hatch signal of NTSC. (Audio Video Input)
7. Press the AV button on the remote control to set to the AV mode.
8. Using the remote control, set the brightness and contrast to normal position.
9. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(10)** on the remote control to select "V POSI (60)".
10. Check if the step No. V. POSI (60) is "05".

2-7: VERTICAL SIZE

NOTE: Adjust after performing adjustments in section 2-6.

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(11)** on the remote control to select "V SIZE 50".
4. Adjust by using the LEFT/RIGHT button on the remote control so that the Up/Down OVER SCAN Quantity becomes equal to the Right/Left OVER SCAN Quantity.
5. Receive a broadcast and check if the picture is normal.
6. Receive the cross hatch signal of NTSC. (Audio Video Input)
7. Press the AV button on the remote control to set to the AV mode.
8. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(12)** on the remote control to select "V SIZE 60".
9. Adjust by using the LEFT/RIGHT button on the remote control so that the Up/Down OVER SCAN Quantity becomes equal to the Right/Left OVER SCAN Quantity.
10. Receive a broadcast and check if the picture is normal.

2-8: VERTICAL LINEARITY

NOTE: Adjust after performing adjustments in section 2-7. After the adjustment of Vertical Linearity, reconfirm the Vertical Position and Vertical Size adjustments.

1. Receive the monoscope pattern from the Pattern Generator.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the **VR401** until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

2-9: OSD HORIZONTAL

1. Using the remote control, set the brightness and contrast to normal position.
2. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(35)** on the remote control to select "H POSI OSD".
3. Press the LEFT/RIGHT button on the remote control until the difference of A and B becomes minimum. **(Refer to Fig. 2-1)**

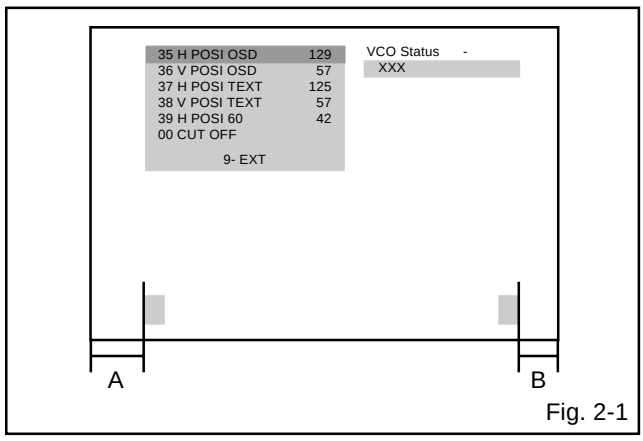


Fig. 2-1

ELECTRICAL ADJUSTMENTS

2-10: CUT OFF

1. Set condition is AV MODE without signal.
2. Using the remote control, set the brightness and contrast to normal position.
3. Place the set with Aging Test for more than 15 minutes.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(00)** on the remote control to select "CUT OFF".
5. Adjust the **Screen Volume** until a dim raster is obtained.

2-11: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(03)** on the remote control to select "R DRIVE".
5. Press the LEFT/RIGHT button on the remote control to select the "R DRIVE", "G DRIVE", "M R CUT OFF" or "M G CUT OFF".
6. Adjust the LEFT/RIGHT button on the remote control to whiten the R DRIVE, G DRIVE, M R CUT OFF, and M G CUT OFF at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

2-12: BRIGHT CENT

1. Receive the PAL black pattern*. (RF Input)
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(17)** on the remote control to select "BRIGHT CENT".
4. Press the LEFT/RIGHT button on the remote control until the screen begin to shine.
5. Receive the PAL black pattern*. (Audio Video Input)
6. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~4.

*The Black Pattern means the whole black raster signal. Select the "RASTER" of the pattern generator, set to the OFF position for each R, G and B.

2-13: CONTRAST CENT

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(22)** on the remote control to select "CONT CENT".
2. Press the LEFT/RIGHT button on the remote control until the contrast step No. becomes "30".
3. Receive a broadcast and check if the picture is normal.
4. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 1~3.

2-14: COLOR CENT

1. Receive the PAL color bar pattern. (RF Input)
2. Using the remote control, set the brightness, contrast and color to normal position.
3. Connect the oscilloscope to **TP803**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(25)** on the remote control to select "COLOR CENT".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4 scales on the screen of the oscilloscope.
6. Press the LEFT/RIGHT button on the remote control until the red color level is adjusted to 90 ± 10% of the white level. **(Refer to Fig. 2-2)**
7. Receive the PAL color bar pattern. (Audio Video Input)
8. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~6.

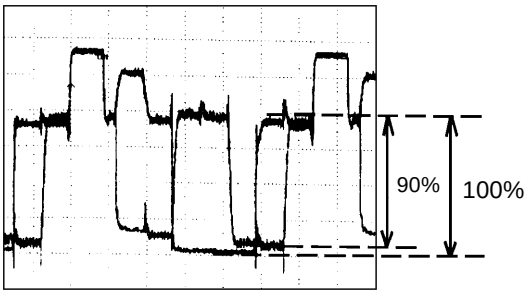


Fig. 2-2

2-15: Confirmation of Fixed Value (Step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	STEP NO.
02	AGC GAIN	00
04	R CUTOFF	31
06	G CUTOFF	31
07	B DRIVE	45
09	V POSI 50	10
10	V POSI 60	05
18	BRIGHT MAX	30
19	BRIGHT MIN	00
20	TINT	31
21	SHARP	05
23	CONTRAST MAX	50
24	CONTRAST MIN	10
26	COLOR MAX	60
27	COLOR MIN	10
30	M B CUT OFF	100
31	CVBS OUT	20
32	APR THRESHOLD	15
33	BELL FILTER	22
34	BANDPASS	00
36	V POSI OSD	57
37	H POSI TXT	135
38	V POSI TXT	57

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue color.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

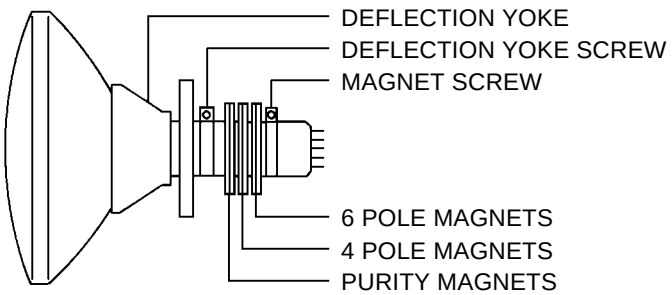


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

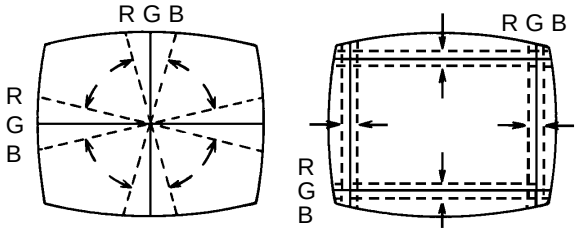
1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

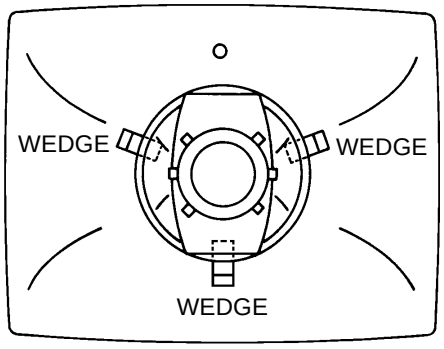
Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. **(Refer to Fig. 3-2-b)**



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

Fig. 3-2-a

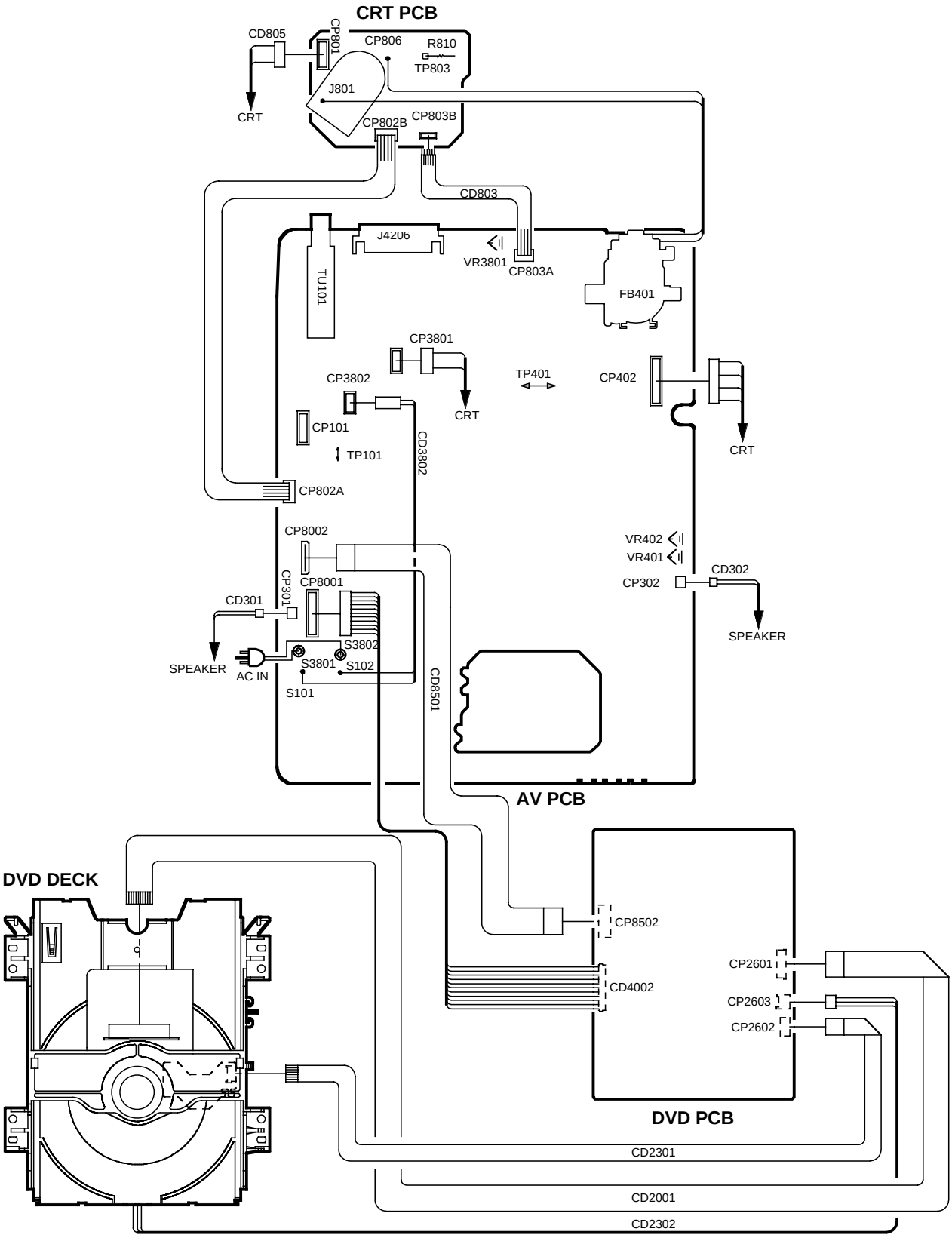


WEDGE POSITION

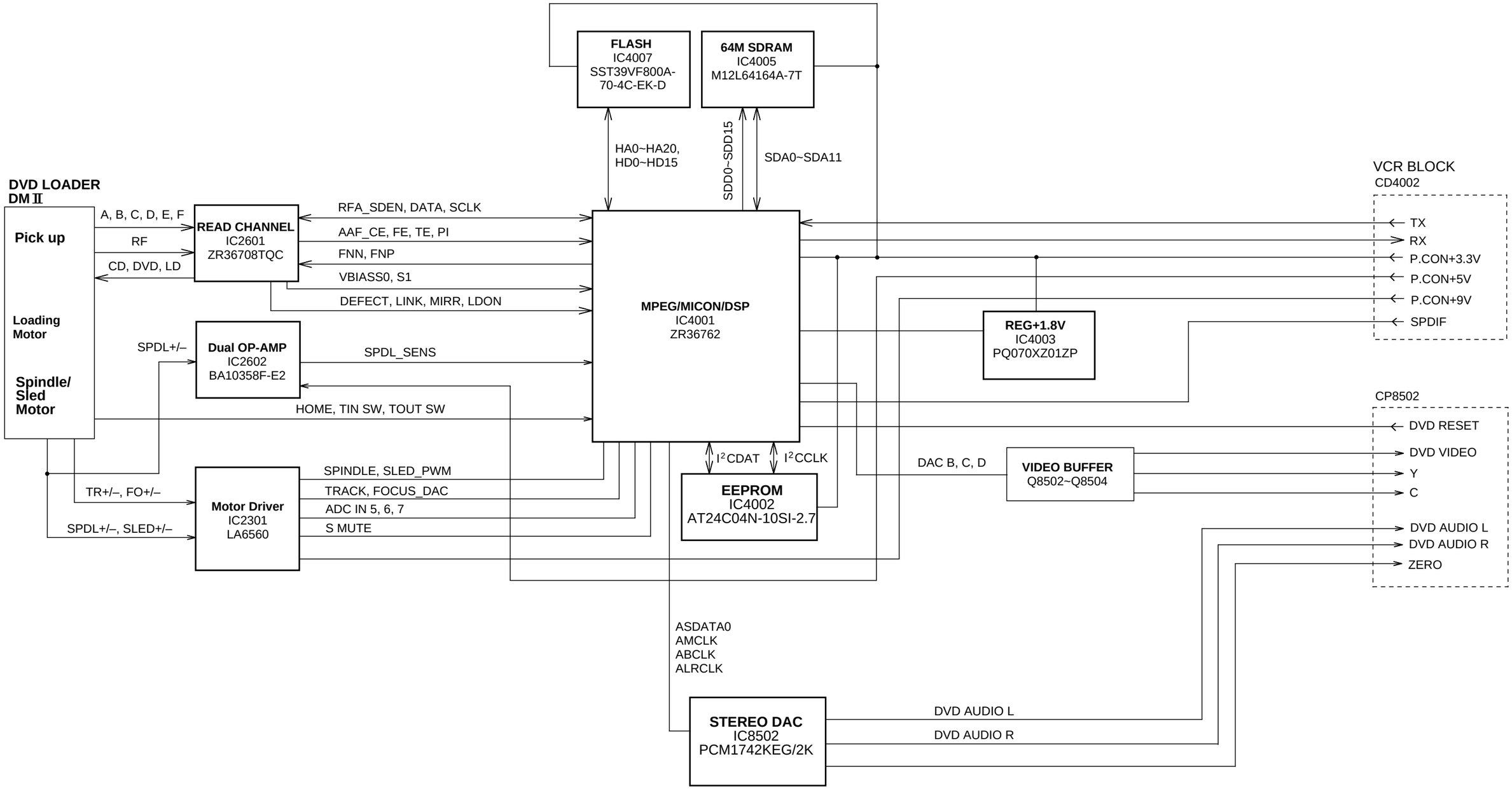
Fig. 3-2-b

ELECTRICAL ADJUSTMENTS

4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



DVD BLOCK DIAGRAM



TV BLOCK DIAGRAM

*A---P.CON+9V
*B---P.CON+12V
*C---P.CON+A5V
*D---CHROMA+5V
*E---AT+5.7V
*F---AT–8V

FROM DVD BLOCK
DVD_A OUT_L
DVD_A OUT_R
ZERO
DVD CVBS
DVD RESET
DVD_C
DVD_Y
SPDIF-134

AMP
IC4201
NJM4580M(TE1)
*B

VIDEO SW
IC602 MM1502XNRE
*A

TU101
SCL SDA AGC IF
4 5 1 11

SAW FILTER
CF606
1 5 4

MEMORY
IC199
S-24C08ADPA-01
*E

CHROMA
IC601 STV2246H
*A *C

Q4203
MUTE
Q4209, Q4212
MUTE

VIDEO SW
IC4206
MM1501XNRE
*A

*E
RESET
IC102
PST3231NR

MICON
IC101
OECF017A

RESET
AV3
SCL
SDA
DVD RESET
AV_1
AV_2
SCART1
TUNER H
A_MUTE
VOL_PWM
OSD B
OSD G
OSD R
OSC_IN
OSC_OUT
V-SYNC
H-SYNC
KEY_1
KEY_2

X101
4MHz

X601
4.433619MHz

Q804
BLUE AMP
Q805
GREEN AMP
Q806
RED AMP

Q405
H.DRIVE
Q406
H. OUT

V801
CRT

V.DRIVE
IC401
TDA8174A

DY801

FB401

AUDIO SW
IC4204
MM1501XNRE
*B

AUDIO SW
IC4205
MM1501XNRE
*B

AUDIO_SW
IC4203
BA7644AN
Q4208
BUFFER
*B

AUDIO_SW
IC4202
BA7644AN
Q4202
BUFFER
*B

Q303
MUTE
Q304
MUTE

SOUND +B
SOUND AMP
IC302
AN7523N

SOUND AMP
IC301
AN7523N
SOUND +B

SPEAKER
SP301
SPEAKER
SP302

VOL DOWN
VOL UP
CH DOWN
CH UP
PLAY
OPEN/COLSE
STOP
<<SKIP
SKIP>>

Q4201
DRIVER
COAXIAL
J4201

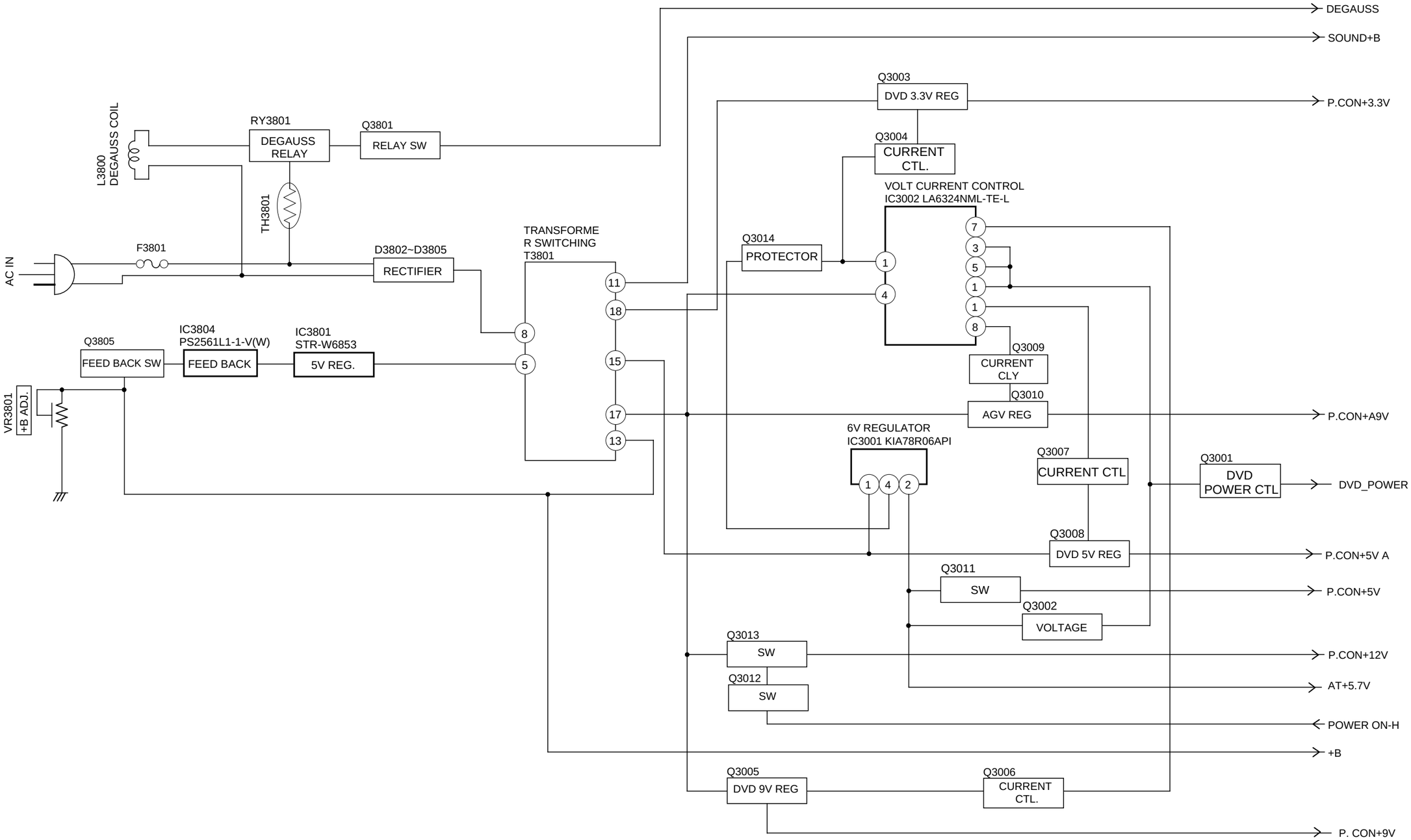
21PIN
J4206

AUDIO R
J4205
AUDIO L
J4204
VIDEO
J4203

HEADPHONE JACK
J4202

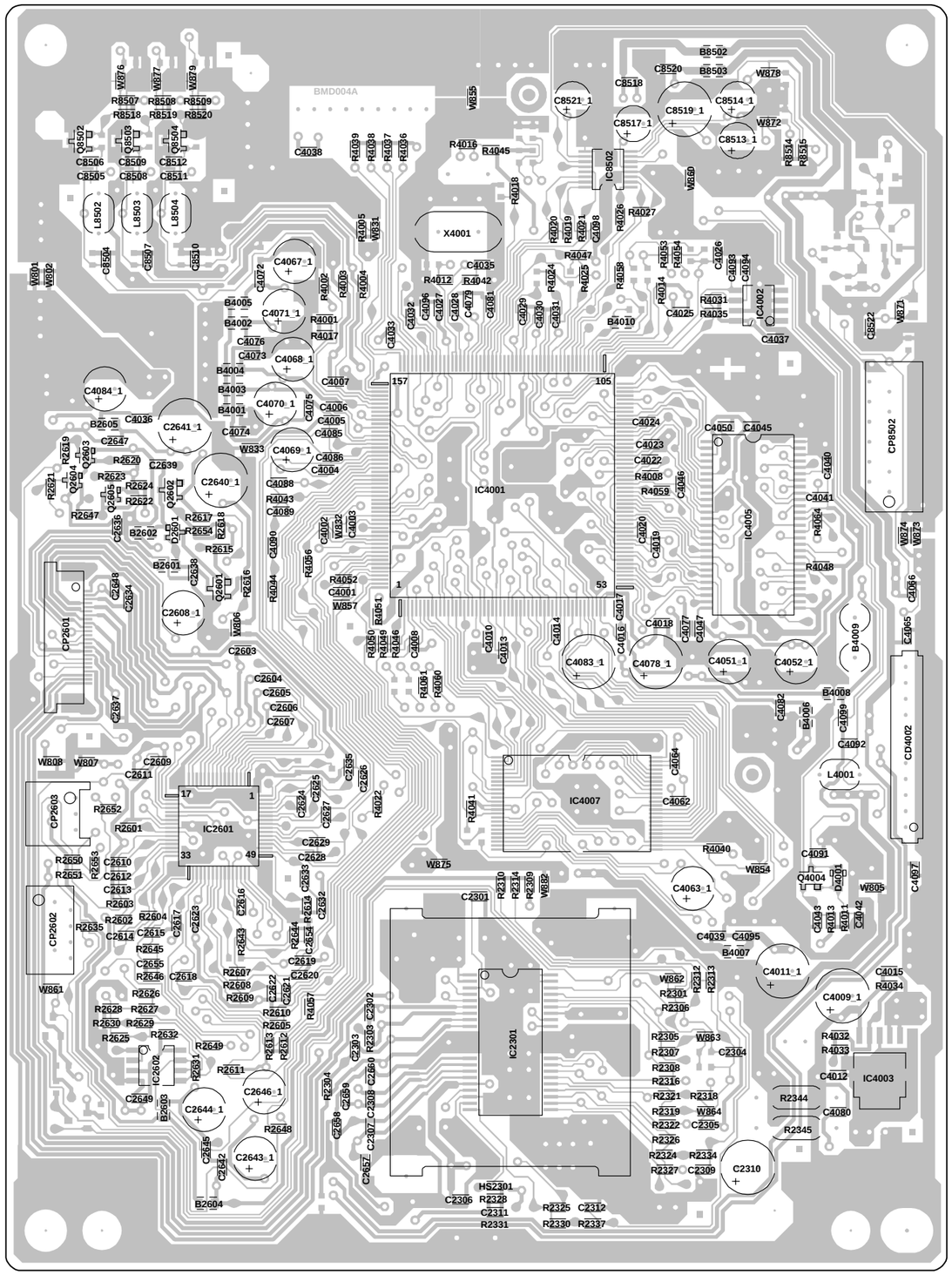
E-1
E-2

POWER BLOCK DIAGRAM



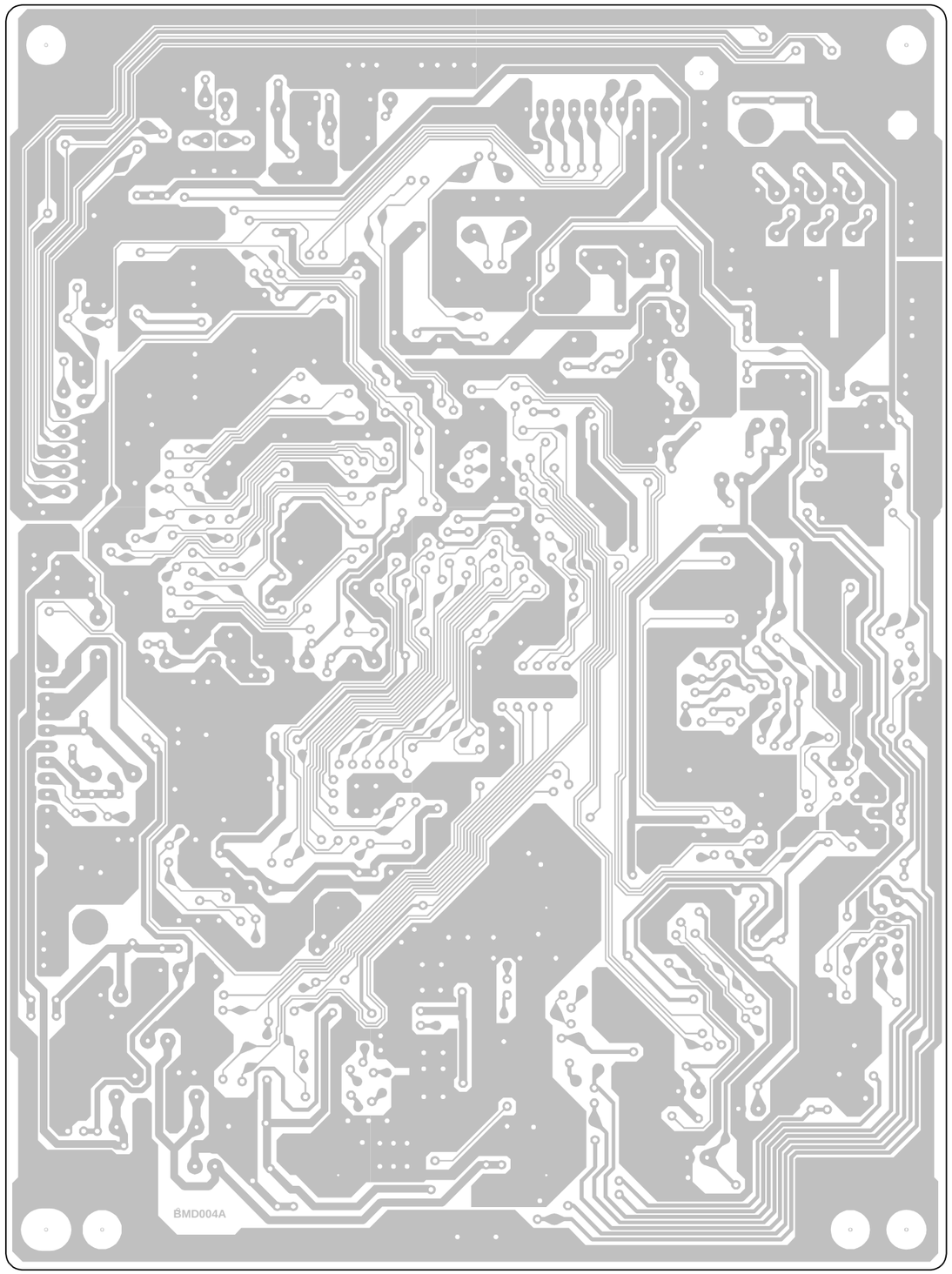
PRINTED CIRCUIT BOARDS

DVD (TOP SIDE)



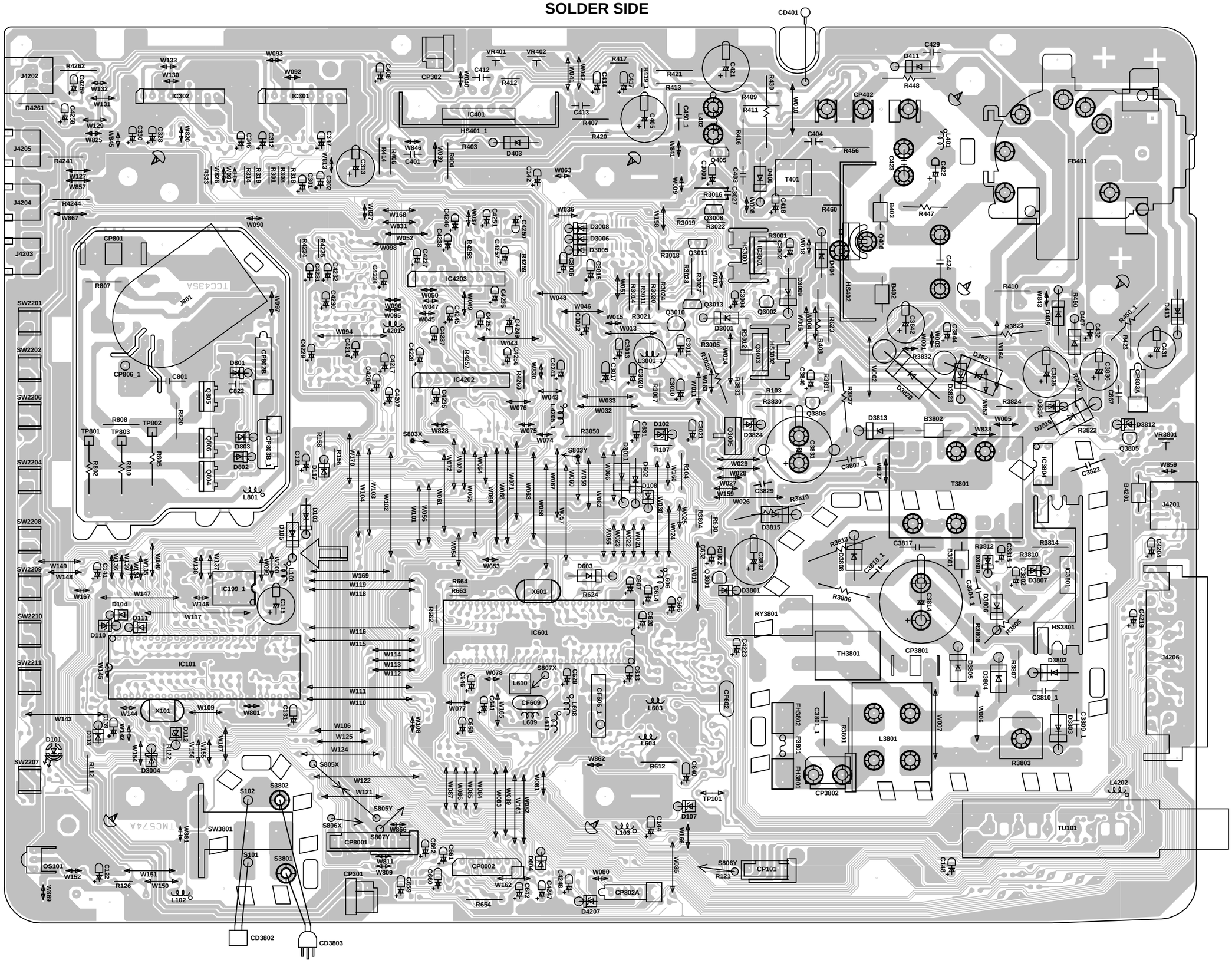
F-1

DVD (BOTTOM SIDE)



F-2

PRINTED CIRCUIT BOARDS
AV/CRT (INSERTED PARTS)
SOLDER SIDE


CD401
J4202
J4205
J4204
J4203
R4262
R4261
R4241
R4244
W867
W857
W127
W129
W825
W132
W131
W130
W133
W093
W092
IC302
IC301
C4259
C4258
C330
C328
W826
W824
W845
C346
C312
C347
W813
R323
R314
R319
R301
R308
R318
C313
C408
CP302
VR401
VR402
C412
R412
W040
W041
W042
R417
R419_1
C414
C417
C413
R407
R420
IC401
HS401_1
D403
C405
R403
W846
C401
R406
R414
W039
R404
C142
W863
R421
R413
C421
L402
R409
R411
R416
W841
W009
C450_1
W010
C404
R456
CP402
D411
C429
R448
C401_1
C423
C422
FB401
T401
D406
C403
C3027
C3001
R3016
Q405
W008
C418
R460
B403
R447
Q406
C424
B402
R410
W843
R490
D405
D407
C432
R450_1
D413
C431
R423
CP803A
C836
C567
C3842
C3844
W001
W003
R3832
D3821
D3820
D3823
R3823
W164
C3835
R3801
D3814
D3819
R3822
D3812
VR3801
Q3805
W859
J4201
B4201
C4204
C4219
J4206
W005
W838
W852
R3824
R3827
C3840
R3831
R103
R3830
Q3806
D3813
B3802
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IC3804
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R3819
D3824
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D3815
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W028
W027
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R530
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D3807
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D3806
D3805
D3804
R3807
R3805
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FH3802
F3801
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W006
CP3802
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TU101
C4148
CP101
S806Y
R121
W035
W080
CP802A
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C642
C424
D604
W162
CP8002
C662
C661
C660
C659
R654
CP301
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S805X
S803X
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D101
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D108
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W067
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W062
W066
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R156
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W138
W137
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L101
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D104
D111
D110
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IC101
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X101
W109
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C139
W142
D113
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R122
W154
W155
W156
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D3004
R112
D101
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SW2202
SW2206
SW2204
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SW2209
SW2210
SW2211
SW2207
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TP801
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R810
R802
Q806
Q804
D803
D802
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C4230
R4256
R4259
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C4252
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C4228
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L4205
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IC4202
C4235
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W046
W015
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C3011
R3005
R3035
W014
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W011
R3033
R3012
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HS3002
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R3024
R3020
R3011
R3014
W051
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D3005
D3006
D3008
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Q3011
R3028
R3027
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Q3010
Q3002
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IC3001
C3002
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W087
W077
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C646
C641
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CF602
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C628
C620
C614
C607
L606
C666
X601
R624
R664
R663
R662
IC601
D603
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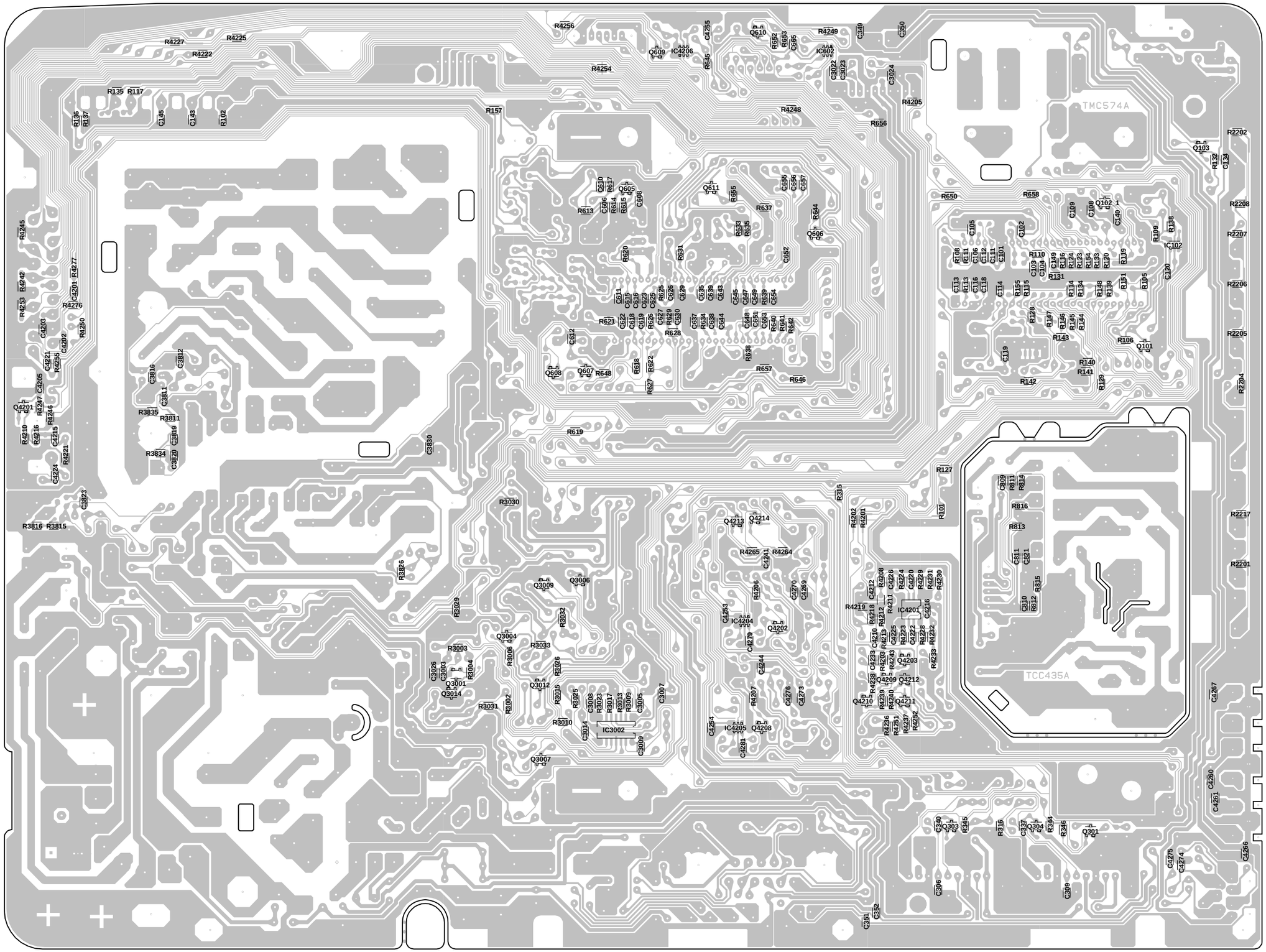
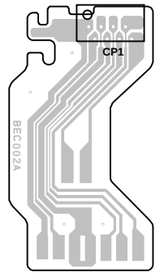
W445
W446

PRINTED CIRCUIT BOARDS
AV/CRT (CHIP MOUNTED PARTS)
SOLDER SIDE

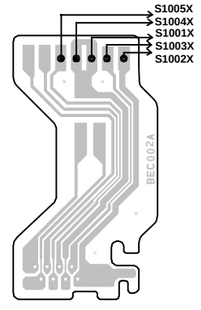


PRINTED CIRCUIT BOARDS

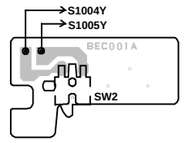
RELAY (INSERTED PARS)
SOLDER SIDE



RELAY (CHIP MOUNTED PARS)
SOLDER SIDE



SW
SOLDER SIDE



MPEG/MICON SCHEMATIC DIAGRAM

(DVD PCB)

MPEG/MICON/DSP IC
IC4001
ZR36762

FROM/TO MEMORY

FROM/TO AUDIO/VIDEO

FROM/TO RF AMP/DSP

FROM/TO REGLATOR

REG+1.8V IC
IC4003 PQ070XZ01ZP

EEPROM IC
IC4002
AT24C04N-10SI-2.7

MCL4148
LEVEL CONVERT
Q4004
KTC3875S_Y_RTK

W5T29X7.5X19

200/330mm
CD4002 (CP8001)
CU2B2001

W4BRH3.5X6X1.0X2

L4001 2.2uH 0305

L4002

PCB130
BMD004

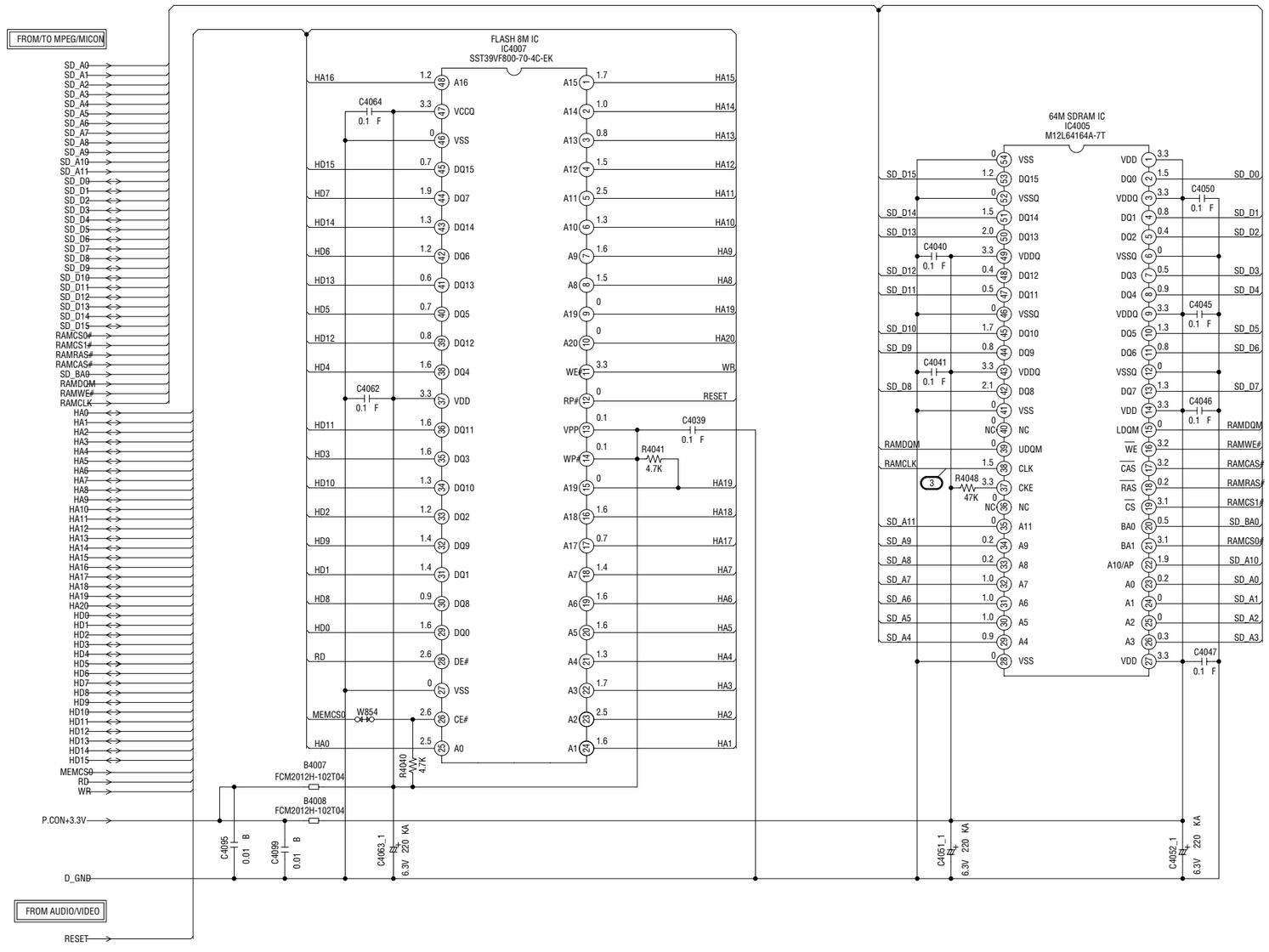
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

DIGITAL AUDIO SIGNAL(PB)

MEMORY SCHEMATIC DIAGRAM

(DVD PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

RF AMP/DSP SCHEMATIC DIAGRAM

(DVD PCB)

FFC(P=0.5mm)
CD2601
2H001901

FROM/TO LODER

CP2601
IMSA-9631S-24Y901

24	T-	NC
23	T+	TR-
22	F-	TR+
21	F+	FO-
20	MON(DVD)	FO+
19	NC(SW)	DVDPD
18	VOL(DVD)	NC
17	GND(DVD)	VR_DVD
16	LD(DVD)	DVDLD
15	LD(CD)	CDLD
14	VOL(CD)	VR_CD
13	GND(CD)	RF_GND
12	MON(COM)	CDPD
11	GND(NC)	NC
10	RF	OPU_RF
9	C	OPU_C
8	B	OPU_B
7	A	OPU_A
6	D	OPU_D
5	F	OPU_F
4	E	OPU_E
3	VCC	OPU_VREF
2	VREF	NC
1	GND(PDIC)	NC

FFC(P=1.0mm)
CD2602
2H080701

FROM/TO LODER

CP2602
IMSA-9615S-08C-PP

1	SLD-	MOT_SLED-
2	SLD+	MOT_SLED+
3	SP1-	MOT_SPDL-
4	SP1+	MOT_SPDL+
5	LIMIT SW	HOME
6	GND	
7	SP_FG	NC
8	+5V	

FROM LODER

CP2603
A2001WR2-3P

1	CLOSE	TIN_SW
2	GND(D)	TOUT_SW
3	OPEN	

FROM/TO MPEG/MICON

SPDL_SENS, TOUT_SW, TIN_SW, RFA_SDEN, RFA_DATA, RFA_SCLK, AAF_CE, AAF_FE, AAF_TE, AAF_PI, VR_SEL, FNN, FNP, VBIASS0, VBIASS1, DEFECT, LINK, MIRR, LDON, HOME, GND, D_GND, P.CON+5V, P.CON+A5V, P.CON+3.3V, SMUTE, TRACK_DAC, FOCUS_DAC, SPINDLE_PWM, SLED_PWM, ADCIN_7, ADCIN_5, ADCIN_6, VCC+9V, M_GND

READ CHANNEL IC
IC2601
ZR36708TQC

DUAL OP-AMP IC
IC2602
BA10358F-E2

MOTOR DRIVE IC
LA6560
IC2301

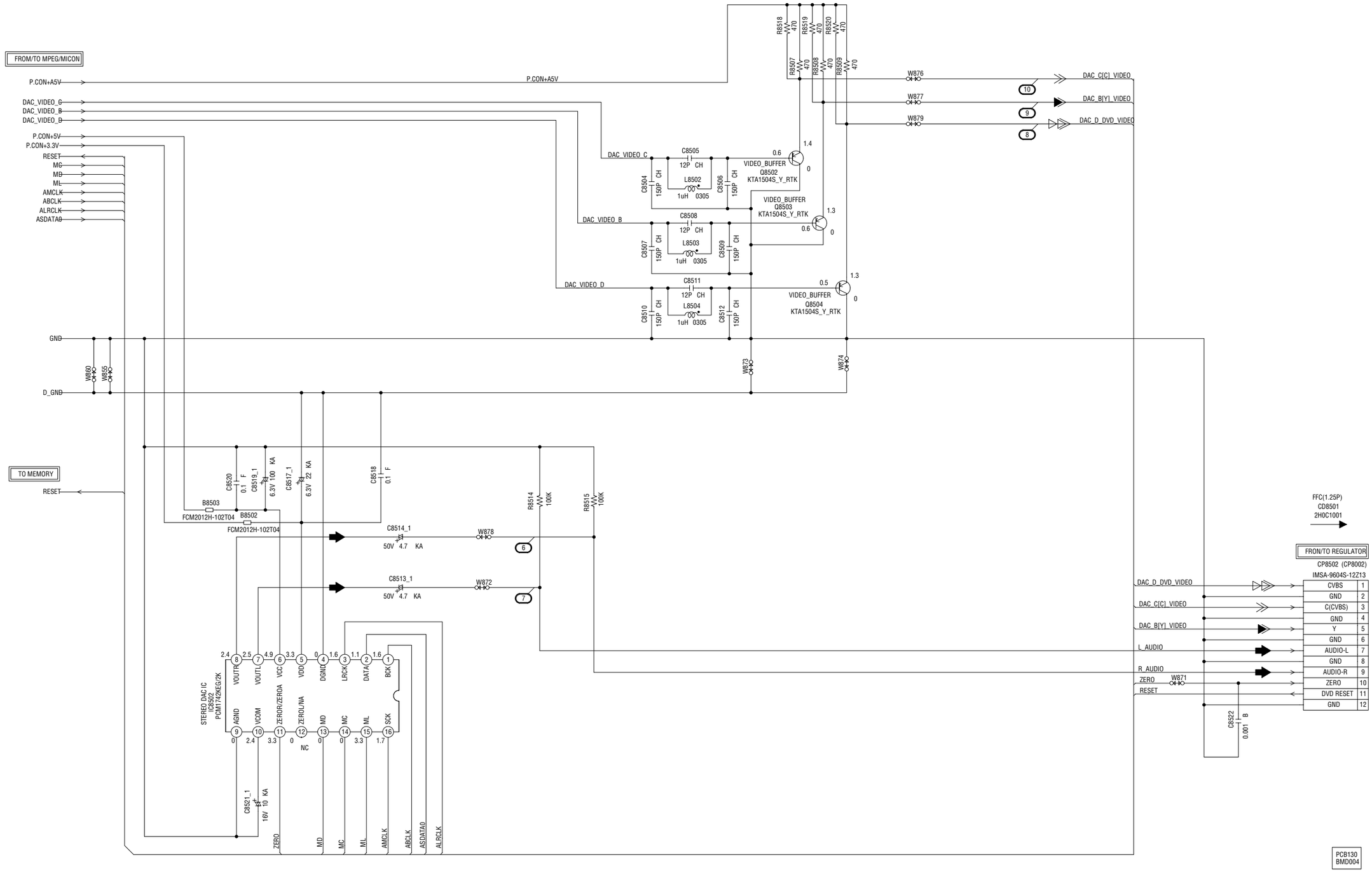
PCB130
BMD004

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

AUDIO/VIDEO SCHEMATIC DIAGRAM

(DVD PCB)



R.SIGNAL+ COMPONENT SIGNAL(U)

B.SIGNAL+ COMPONENT SIGNAL(V)

PLAYBACK VIDEO SIGNAL

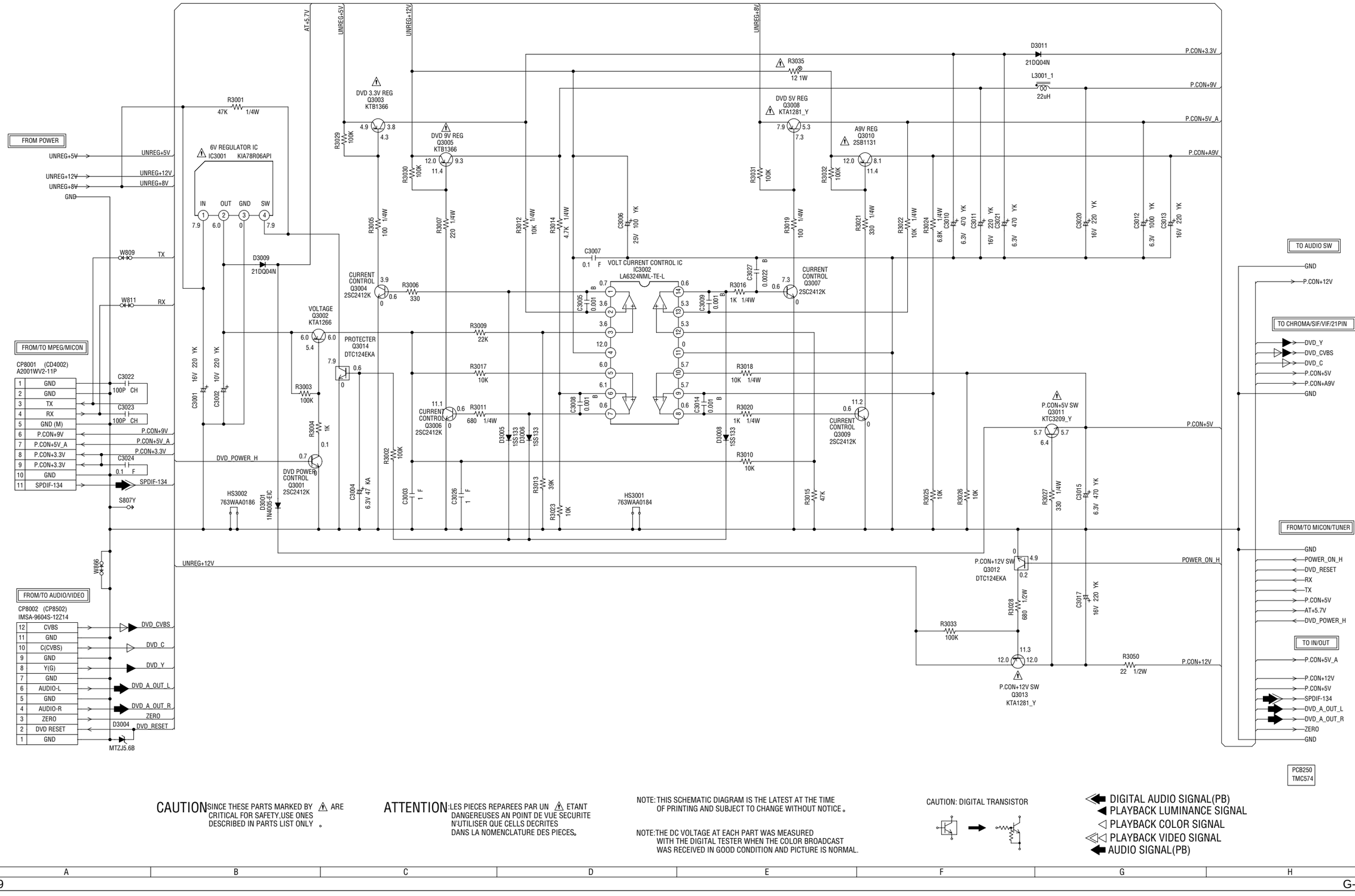
AUDIO SIGNAL(PB)

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

REGULATOR SCHEMATIC DIAGRAM

(AV PCB)



CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

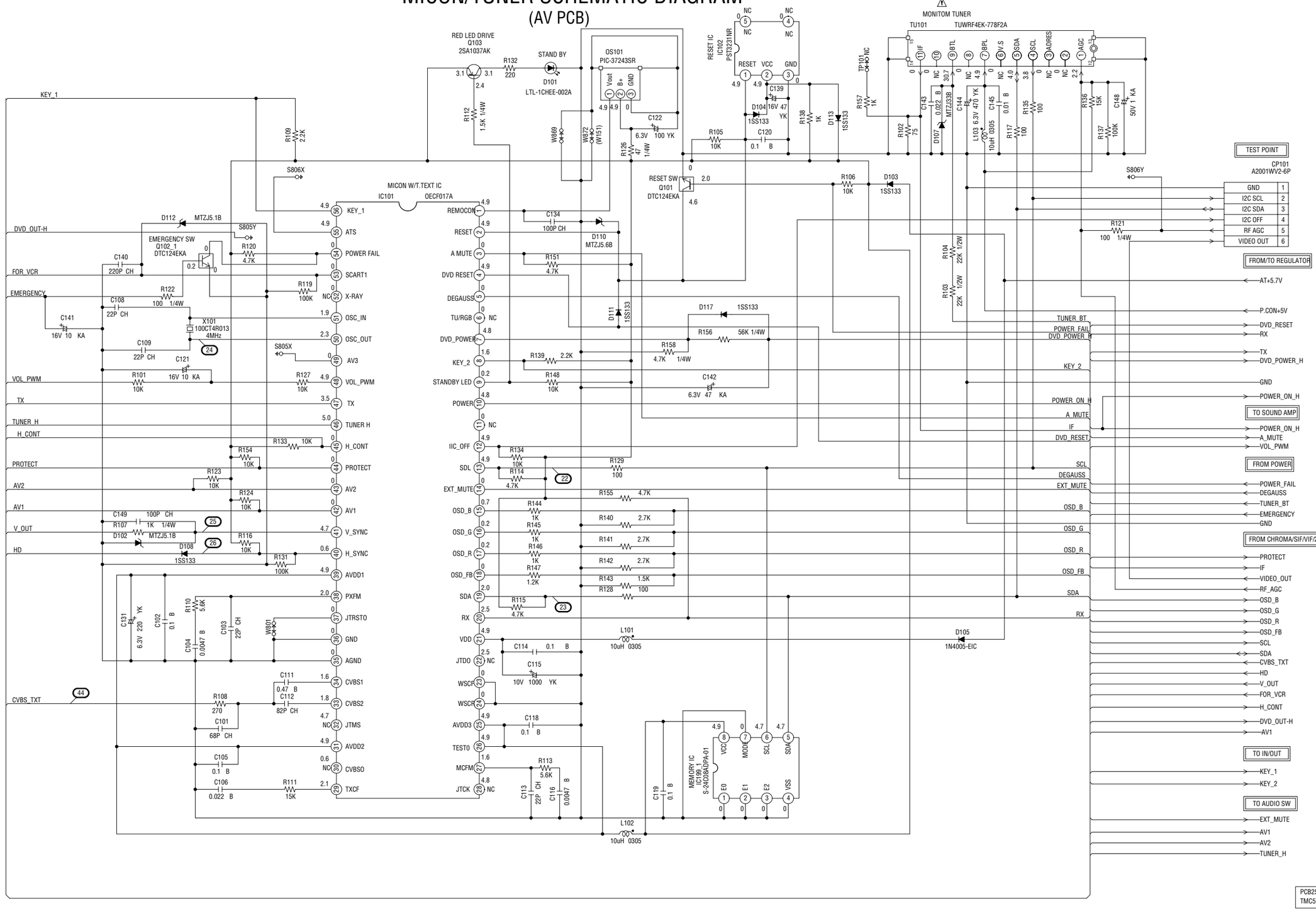
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR

- DIGITAL AUDIO SIGNAL(PB)
- PLAYBACK LUMINANCE SIGNAL
- PLAYBACK COLOR SIGNAL
- PLAYBACK VIDEO SIGNAL
- AUDIO SIGNAL(PB)

MICON/TUNER SCHEMATIC DIAGRAM

(AV PCB)



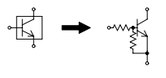
CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION:LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

CAUTION: DIGITAL TRANSISTOR



CHROMA/SIF/VIF/21PIN SCHEMATIC DIAGRAM

(AV PCB)

FROM IN/OUT

FRONT_VIDEO

FROM REGULATOR

DVD_G
DVD_Y
P.CON+A9V
GND
P.CON+5V
DVD_CVBS

FROM/TO AUDIO SW

21PIN_A_OUT_R
21PIN_A_OUT_L
21PIN_A_IN_R
21PIN_A_IN_L
GND

FROM/TO MICON/TUNER

AV1
IF
RF_AGC
SDA
SCL
HD
DVD_OUT-H

AUDIO_OUT

SIF SAW FILTER CF606_1 J1951M

VIF PRE.AMP Q605 KTC3881S-RTK

VCO COIL L610 3700005

BUFFBER Q611 KTC3875S_Y_RTK

VIDEO SW IC IC4206 MM1501XNRE

21PIN JACK J4206 MRC-021V-07_A

CHROMA IC IC601 STV2246H

VIDEO SW IC IC602 MM1502XNRE

VIDEO BUFFBER Q610 2SA1037AK

BUFFER Q606 2SC2412K

PROTECT Q609 KTC3875S_Y_RTK

H.CONTROL Q607 DTA114EKA

H.CONTROL Q608 KTC3875S_Y_RTK

FROM/TO CRT

CP802A (CP802B) B2013H02-6P

CLAMP_OFF	1
B.OUT	2
R.OUT	3
G.OUT	4
GND	5
CLAMP	6

FROM/TO DEFLECTION

H_OUT
VAMP
ABCL
AFC
V_OUT

FROM/TO MICON/TUNER

VIDEO_OUT
FOR_VCR
V_OUT
CVBS_TXT
OSD_B
OSD_G
OSD_R
OSD_FB
PROTECT
H_CONT

PCB250
TMC574

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

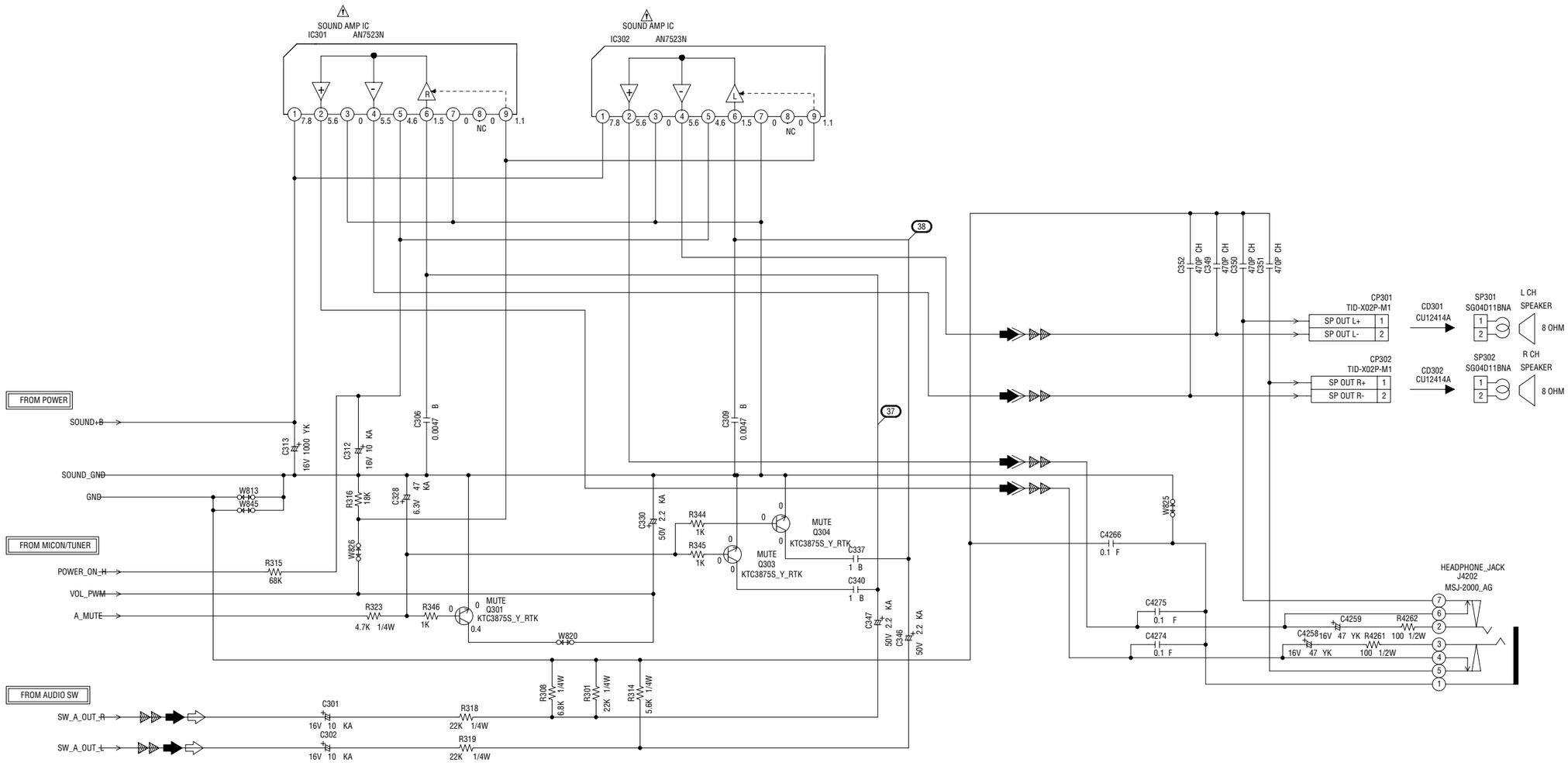
CAUTION: DIGITAL TRANSISTOR

◀ PLAYBACK LUMINANCE SIGNAL

◁ PLAYBACK COLOR SIGNAL

SOUND AMP SCHEMATIC DIAGRAM

(AV PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

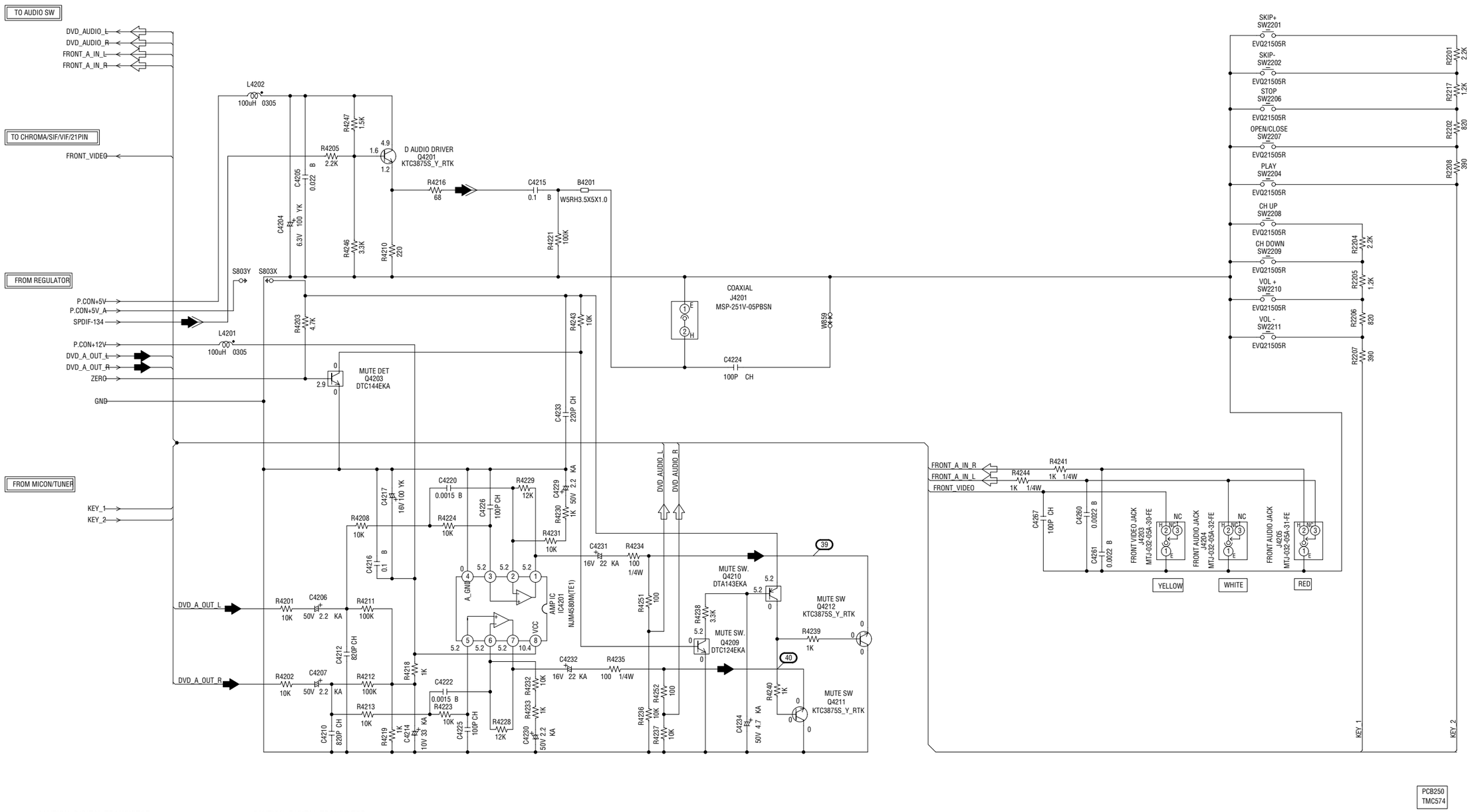
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY 。

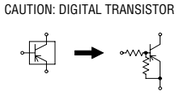
ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

IN/OUT SCHEMATIC DIAGRAM

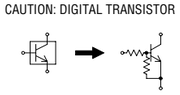
(AV PCB)



CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR



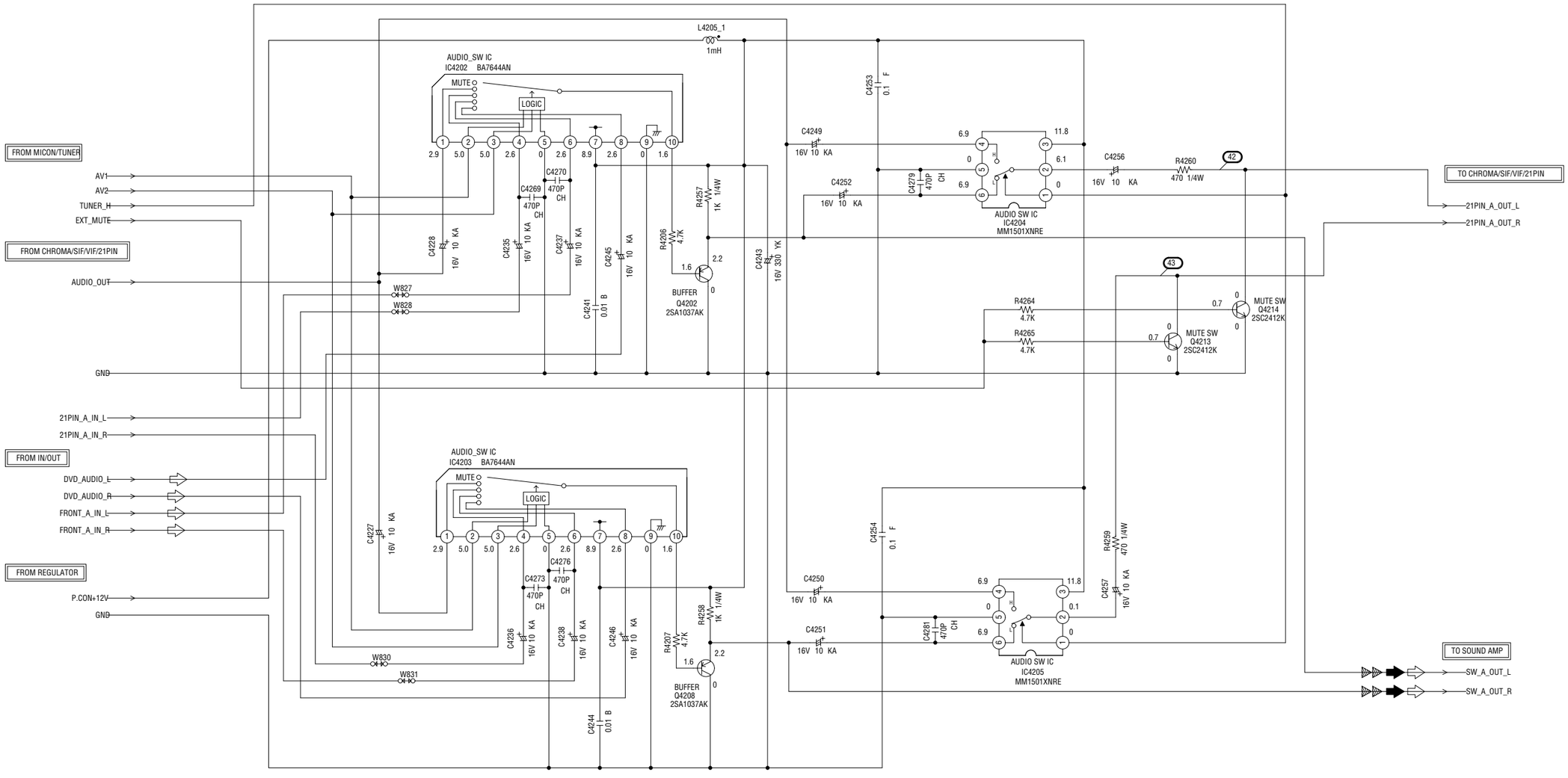
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

⇦ AUDIO SIGNAL
⬅ AUDIO SIGNAL(PB)
⬅ DIGITAL AUDIO SIGNAL(PB)

AUDIO SW SCHEMATIC DIAGRAM

(AV PCB)

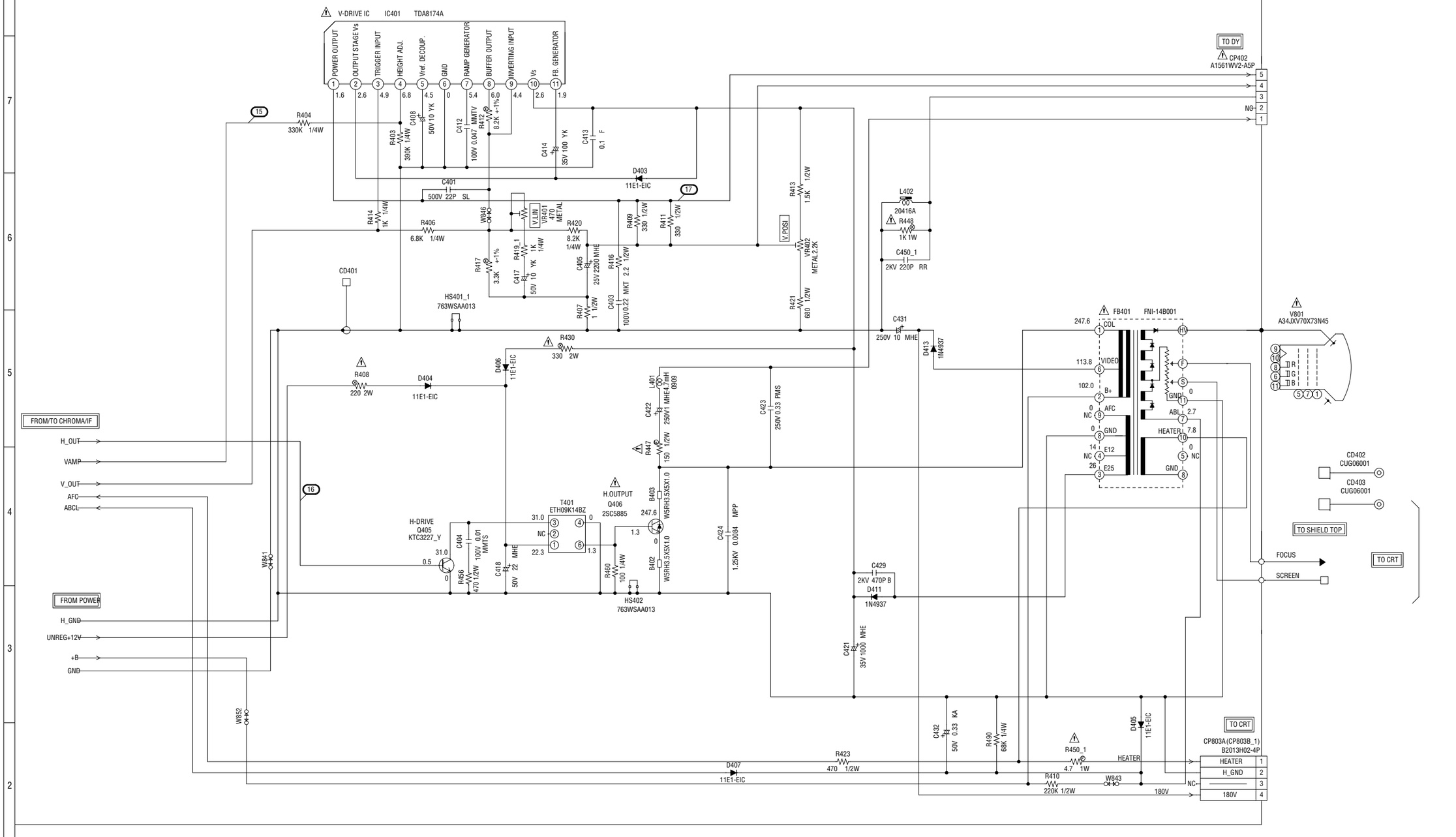


NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

AUDIO SIGNAL
AUDIO SIGNAL(PB)
TUNER AUDIO SIGNAL

DEFLECTION SCHEMATIC DIAGRAM
(AV PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

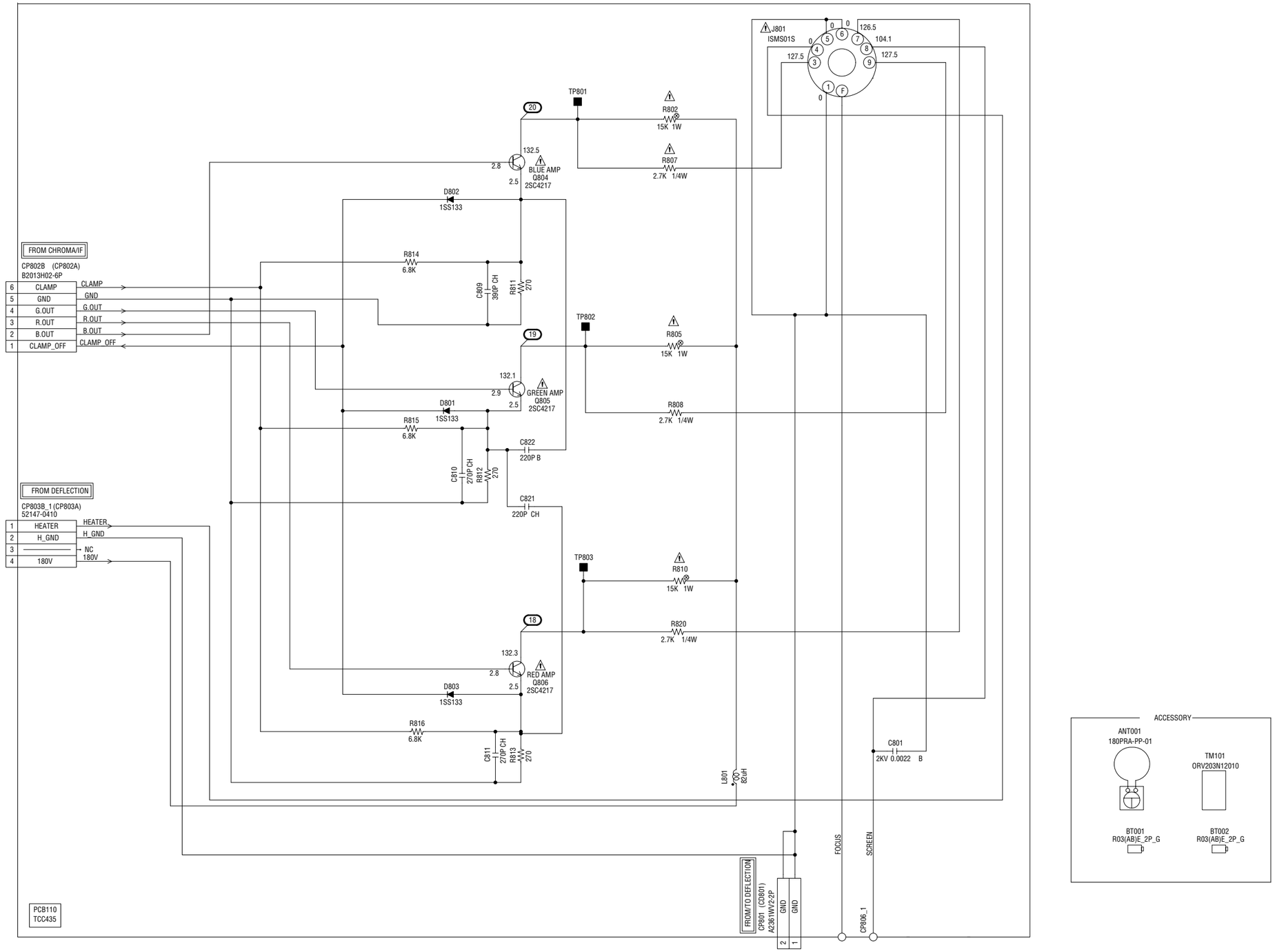
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION :LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CRT SCHEMATIC DIAGRAM
(CRT PCB)



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

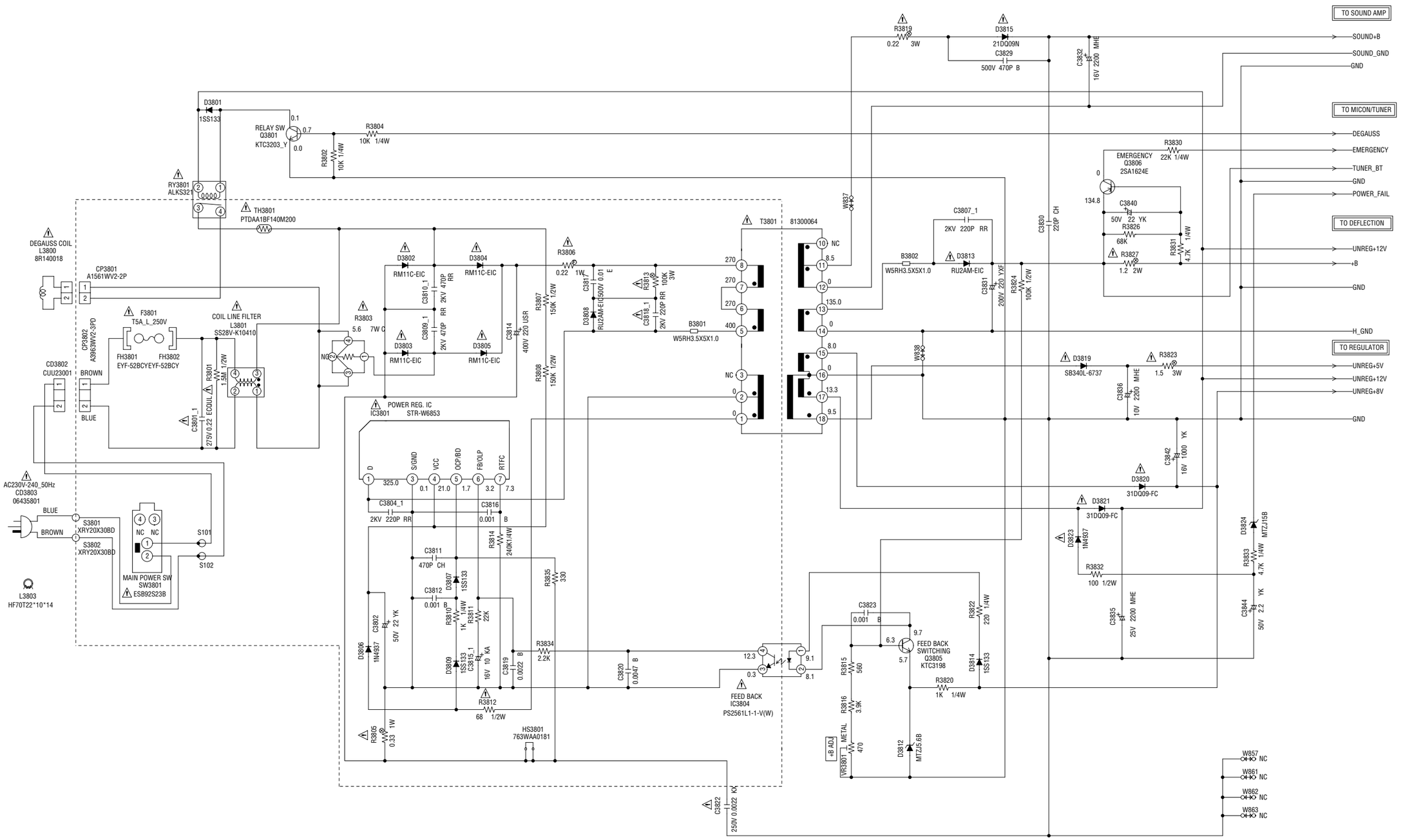
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

POWER SCHEMATIC DIAGRAM

(AV PCB)



ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

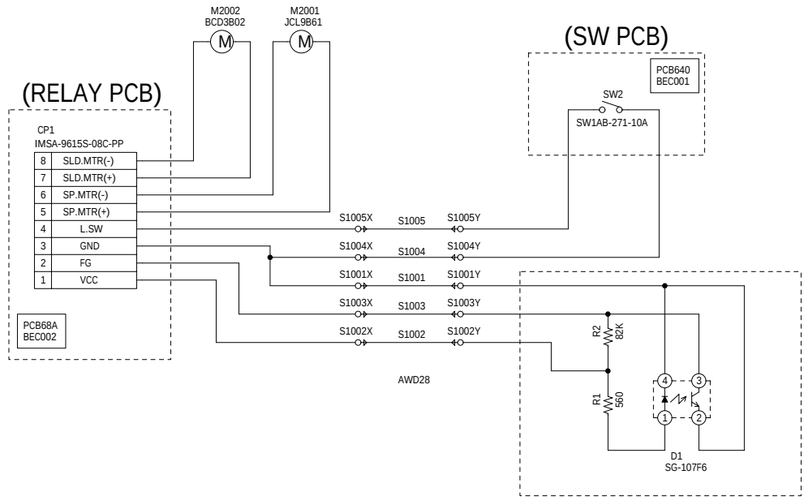
CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

PCB250
TMC574

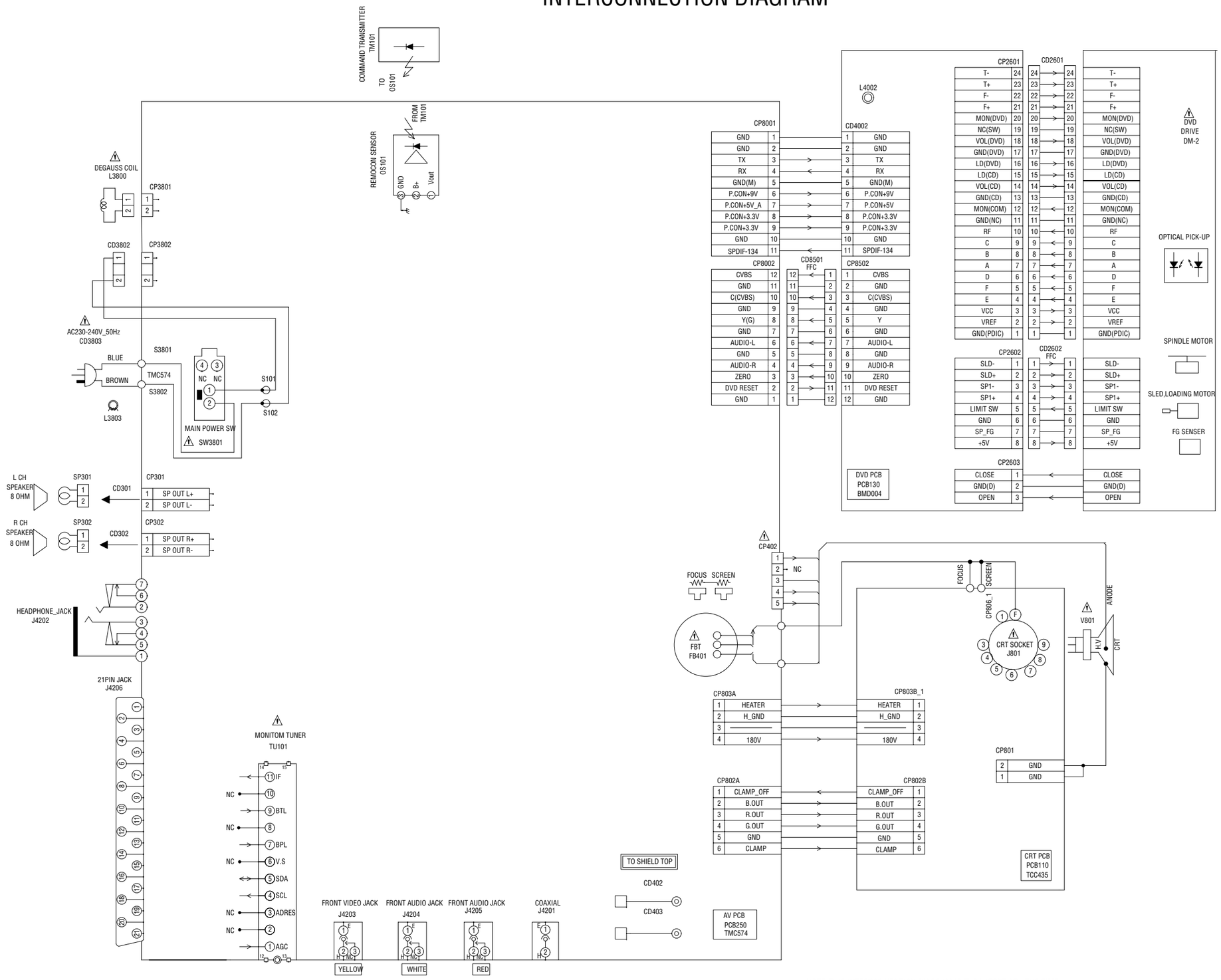
RELAY/SW/FG SCHEMATIC DIAGRAM



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

INTERCONNECTION DIAGRAM



CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

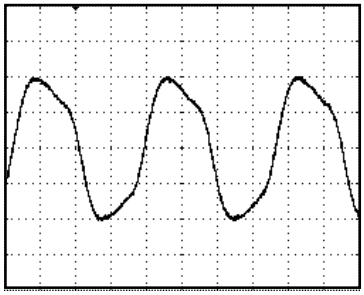
ATTENTION LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

WAVEFORMS

MPEG/MICON

10ns
100mV

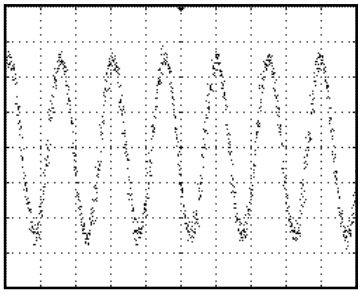


①

100ns
100mV

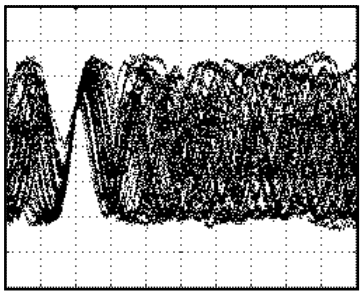
②

5ns
200mV



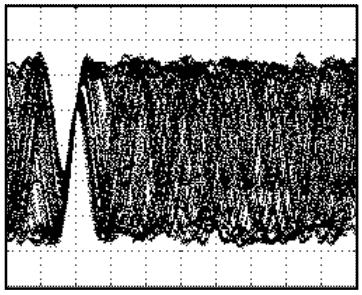
③

200ns
500mV



④

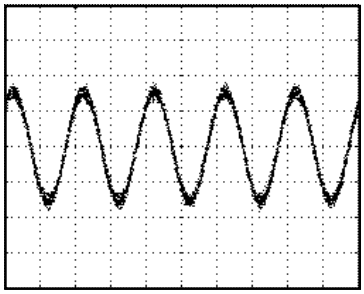
200ns
100mV



⑤

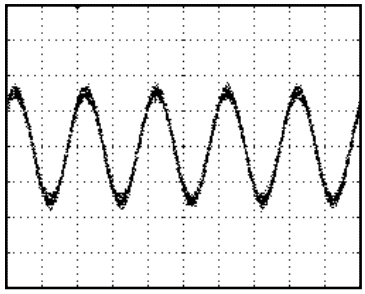
AUDIO/VIDEO

500µs
500mV



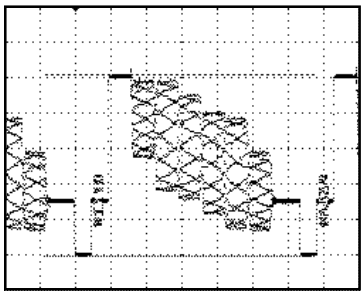
⑥

500µs
500mV



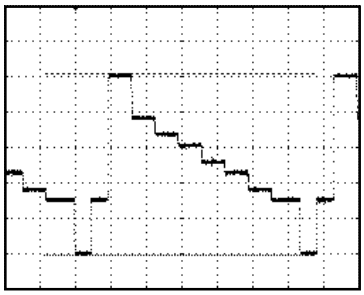
⑦

10µs
200mV



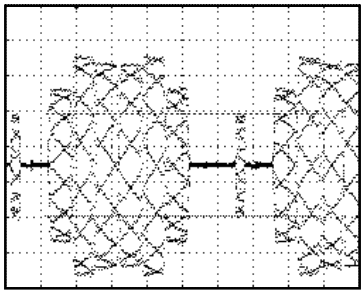
⑧

100µs
200mV



⑨

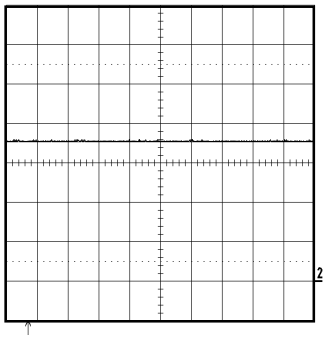
10µs
100mV



⑩

CHROMA/SIF/VIF/21PIN

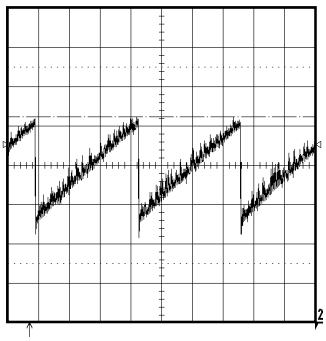
10 µs
5.0 V



⑪

DEFLECTION

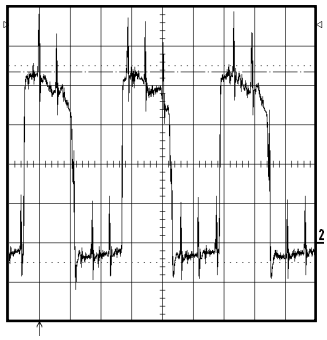
5 ms
0.50 V



⑮

MEMORY

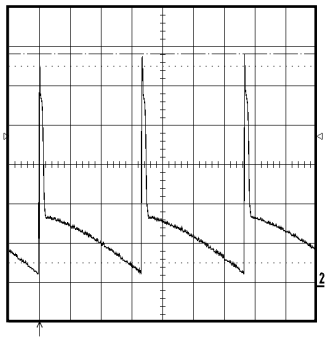
20 µs
200mV



⑯

RF AMP/DSP

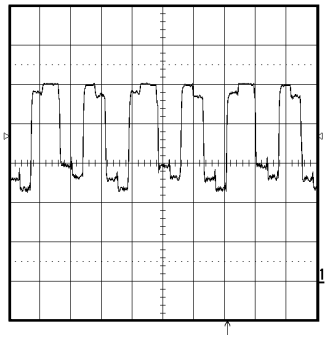
5 ms
10.0 V



⑰

CRT

20 µs
20.0 V

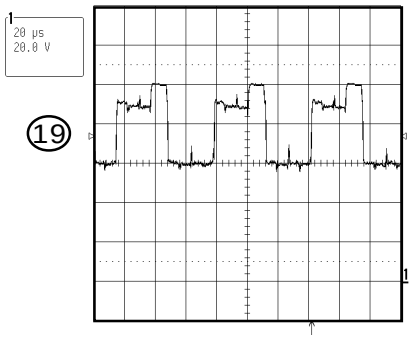


⑱

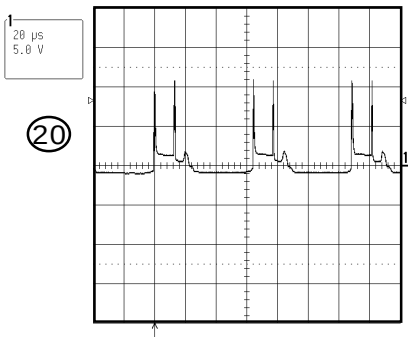
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

⑲

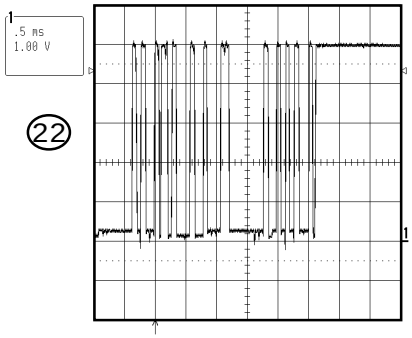


⑳

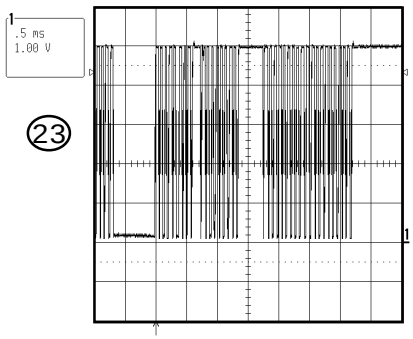


MICON/TUNER

㉒



㉓



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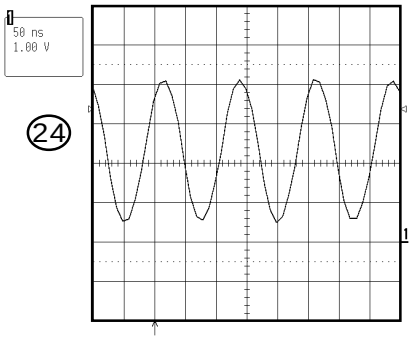

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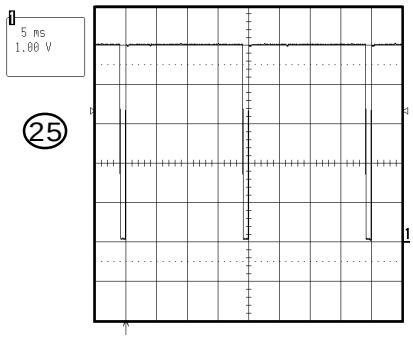

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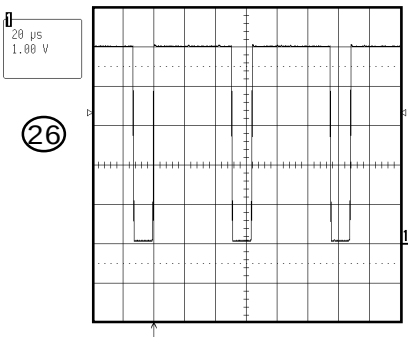
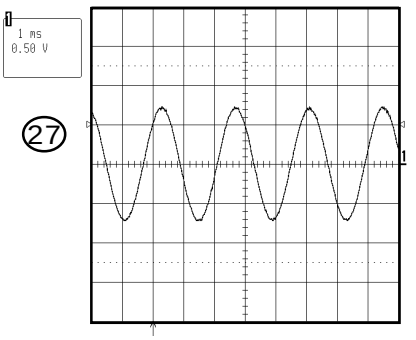


CHROMA/SIF/VIF/21PIN

㉗



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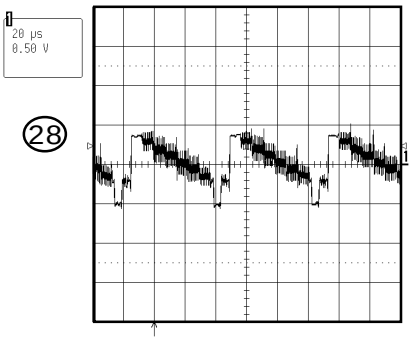

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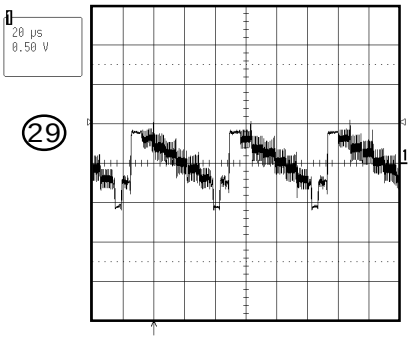

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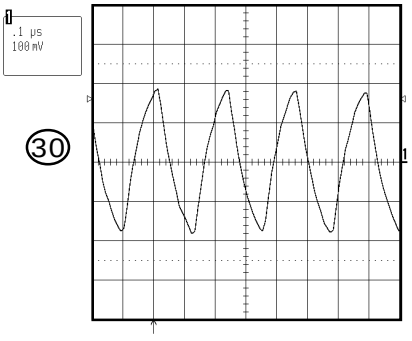

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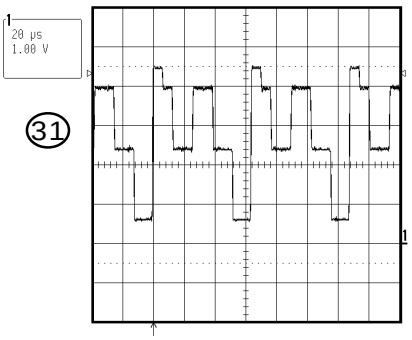

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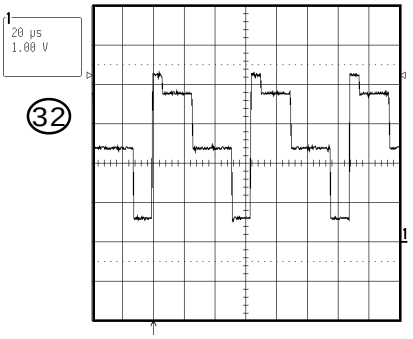

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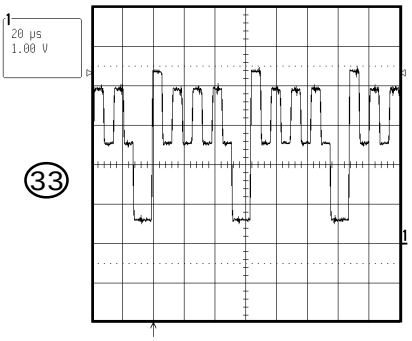

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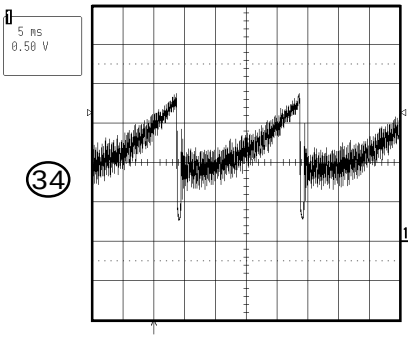
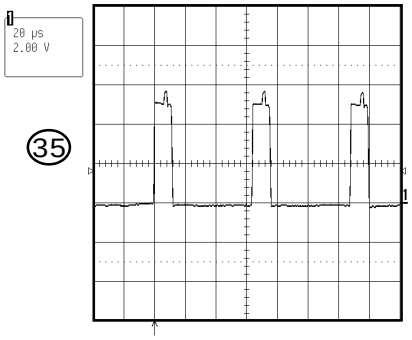


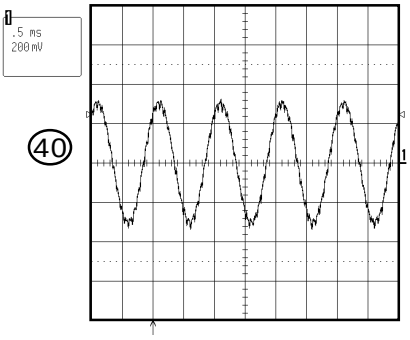
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

35

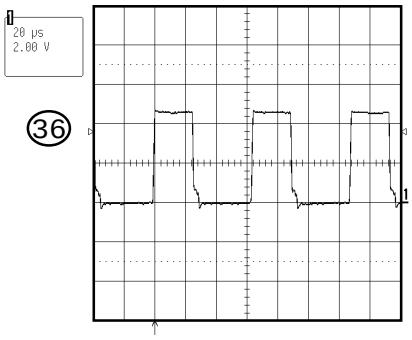


40

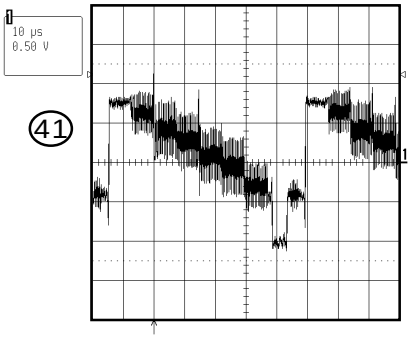


CHROMA/SIF/VIF/21PIN

36

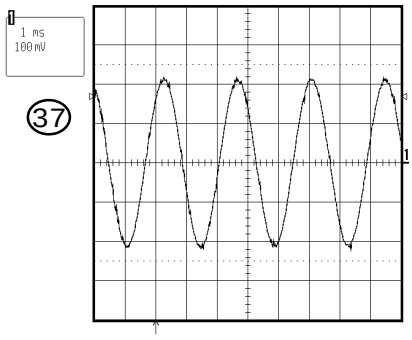


41



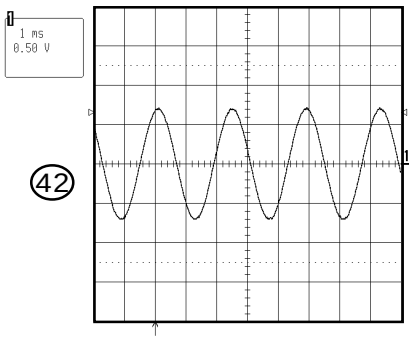
SOUND AMP

37

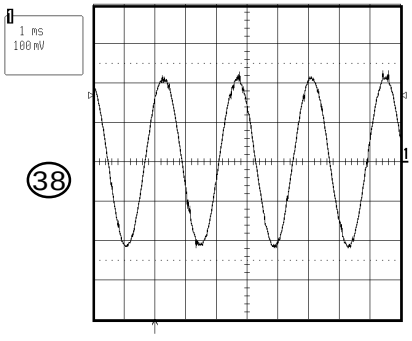


AUDIO SW

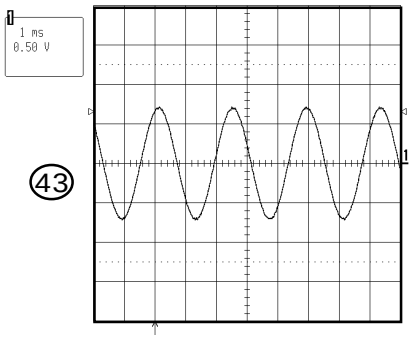
42



38

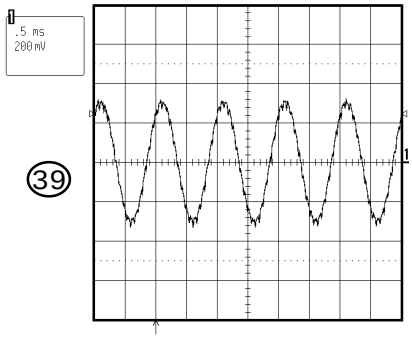


43



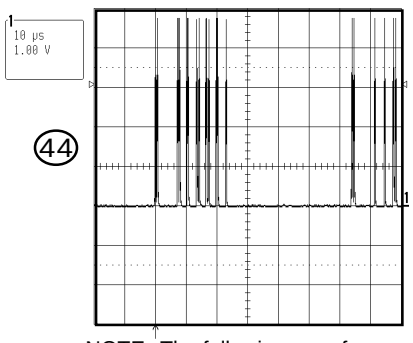
IN/OUT

39



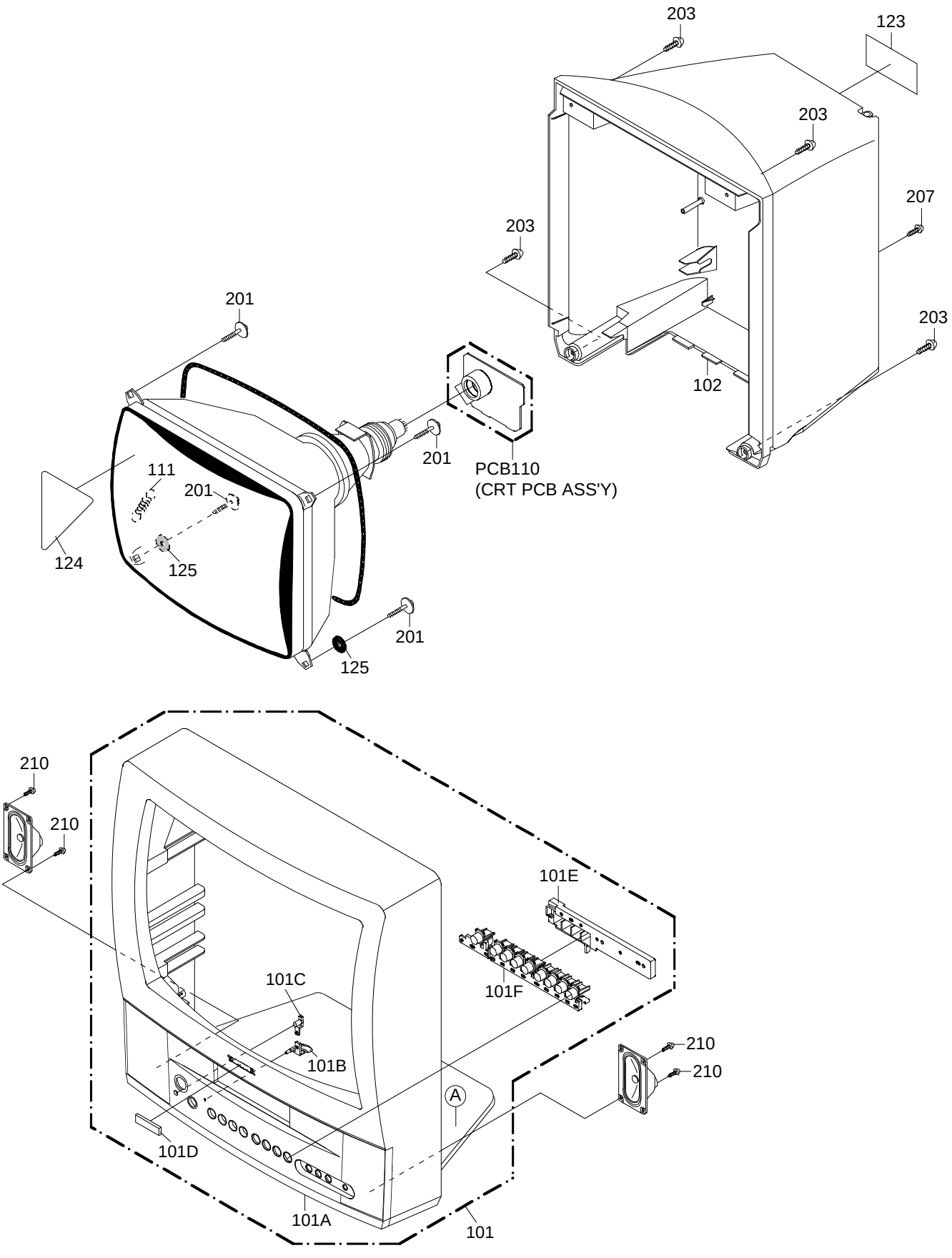
MICON/TUNER

44

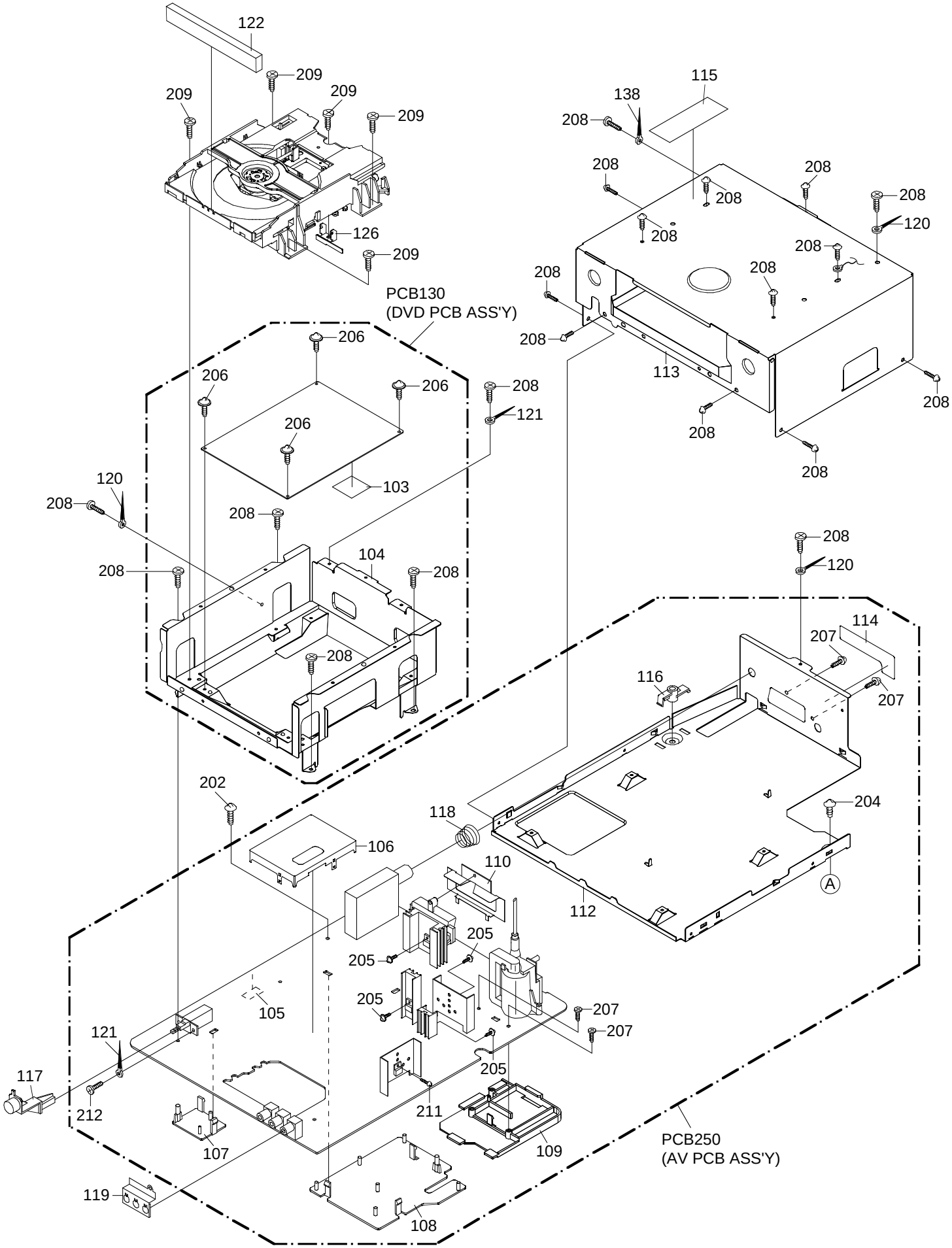


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

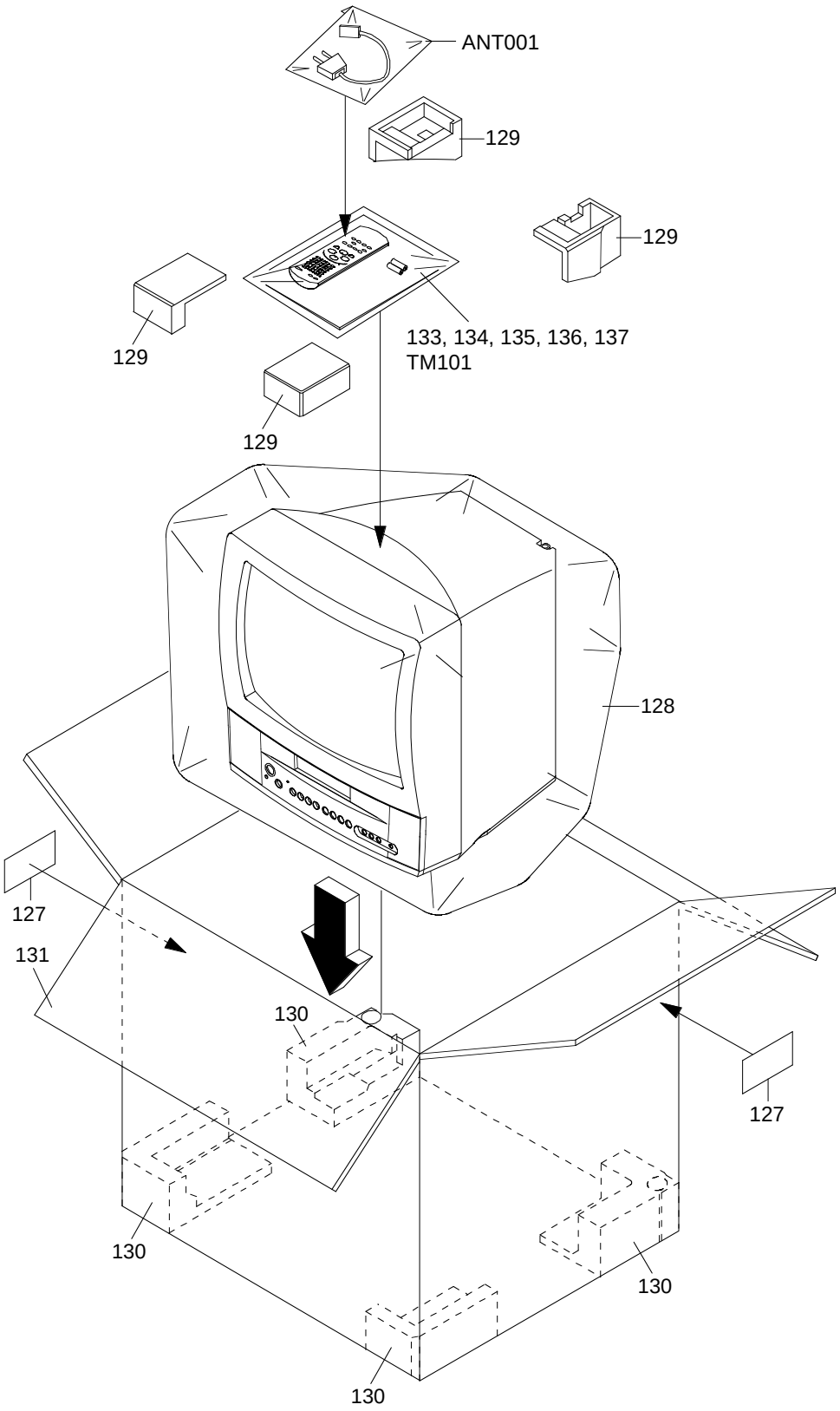
MECHANICAL EXPLODED VIEW



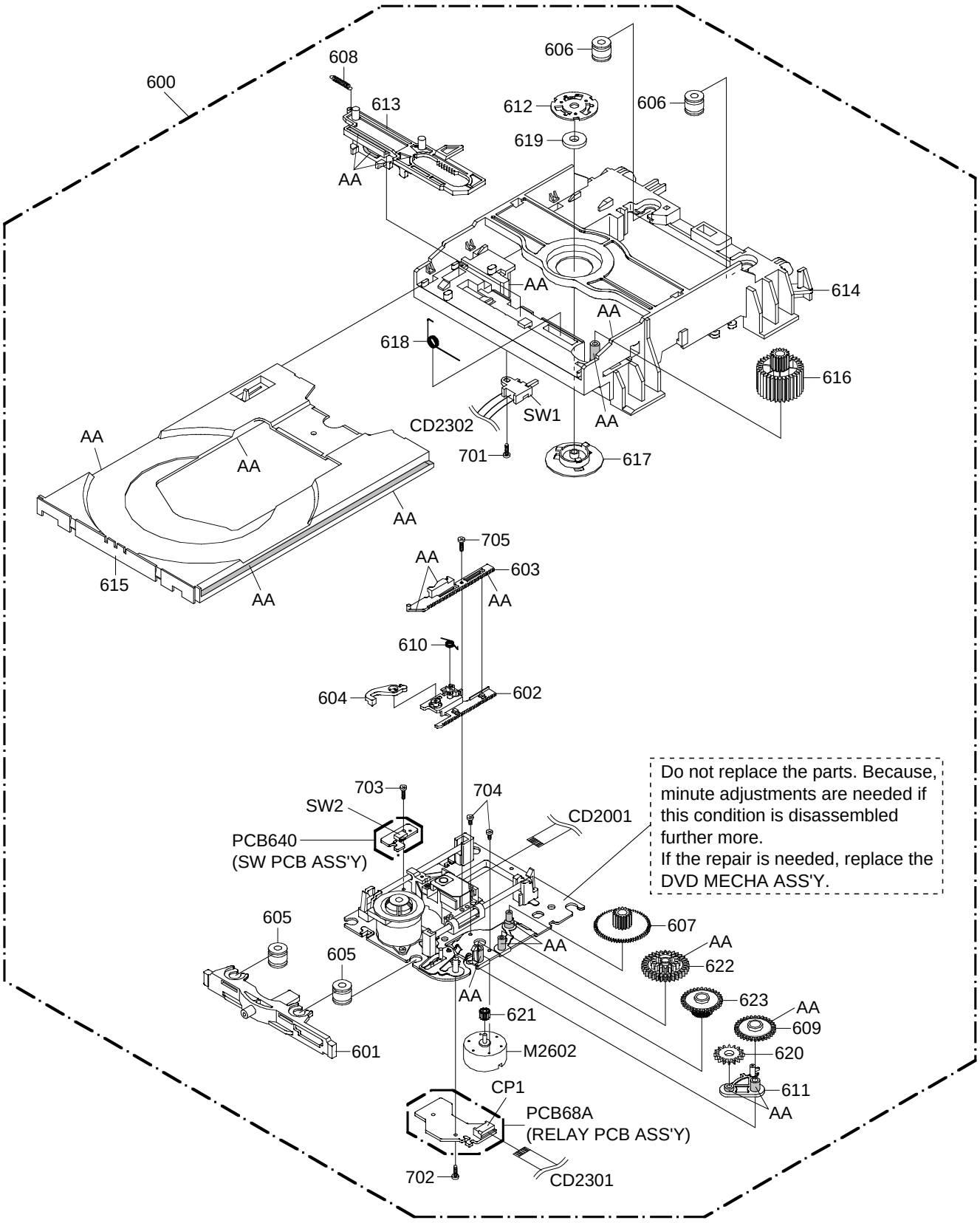
MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW
(PACKING DIAGRAM)



DVD DECK EXPLODED VIEW



CLASS	MARK
GREASE	AA

NOTE: Applying positions AA for the grease are displayed for this section.
Check if the correct grease is applied for each position.

MECHANICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.	Description	
101	AE003413	7A701A064A	FRONT CABI ASS'Y	
101A	AE003414	701WPJC499	CABINET,FRONT	
101B	AD301664	713WPA0248	GLASS,LED	
101C	AD301663	713WPA0249	GUIDE,REMOCON	
101D	AD301657	723549A011	BADGE,BRAND	
101E	AE001032	735WPA0779	STOPPER,BUTTON	
101F	AE003415	735WPBA950	BUTTON,FRAME	
102	AE003416	A5M202W740	CABINET,BACK ASSY	
103	AE000754	7232020748	SHEET,IC	
104	AE002897	761WSA0136	ANGLE,DECK	
105	AE000203	724WNAA002	SHEET,PVC	5x10xT=0.3
106	AE001035	752WSA0347	SHIELD,CASE	
107	AE001036	755WPA0037	COVER,PCB	
108	AE001037	755WPA0038	COVER,PCB	
109	AE001038	761WPA0286	HOLDER,FBT	
110	AE001039	761WSA0098	SHIELD,21PIN	
111	AD300759	741WUA0021	SPRING,EARTH	
112	AE001040	702WSA0188	PLATE,BOTTOM	
113	AE001041	702WSA0191	SHIELD,TOP	
114	AE001042	7230007687	SHEET,JACK	
115	AD301688	7260000341	SHEET,CAUTION	
116	AE001043	735WPA0777	SPACER	
117	AE003417	735WPBB036	BUTTON,POWER	
118	AE003418	743WKAA011	SPRING,TUNER	
119	AD302077	752WSA0333	SHIELD,JACK	
120	AD300758	899EFBA001	WIRING CLIP	
121	BZ710039	8995034000	CORD CLIP UL CO.	
122	AE003419	712WPJC007	PLATE,TRAY-FRONT	
123	AE003420	722549A333	SHEET,RATING	
124	AE003421	723000C513	POP LABEL	
125	AD302158	800WR0A002	SHEET,CRT SUPPORT	
126	AE002846	752WSA0384	ANGLE,DVD 2	
127	AE003422	723000C514	SHEET,BAR CODE	
128	AE002901	791WHDA001	LAMIFILM,BAG	
129	AD301669	792WHA0412	PACKAGE,TOP	
130	AE004114	792WHAA121	PACKAGE,BOTTOM	
131	AE003423	793WCDC125	GIFT BOX	
132	AE003424	A5M202W975	INSTRUCTION BOOK KIT	
133	AD300812	JB5UD400	POLYBAG,INSTRUCTION(RED CAUTION)	
134	AE000131	J2B52541A	HELPLINE SHEET	
135	AE000772	J5A82417A	REGISTRATION CARD	
136	AE003425	J5M20201A	INSTRUCTION BOOK	
137	AE003426	J5M20207A	QUICK SET-UP SHEET	
138	AD301370	899EFBA002	WIRING-CLIP	
201	BZ710321	8121F50B84	SCREW,TAP TITE(P) FAI20 FLAT	5x28
202	BZ710036	8117540B04	SCREW,TAPPING(B0) TRUSS	4x20
203	BZ710035	8117540A64	SCREW,TAPPING(B0) TRUSS	4x16
204	BZ710320	8117540804	SCREW,TAPPING(B0) TRUSS	4x8
205	BZ710239	8109I30A04	SCREW,TAP TITE(B) WH7	3x10
206	BZ710562	8109I30804	SCREW,TAP TITE(B) WH7	3x8
207	BZ710678	8109230804	SCREW,TAP TITE(B) BIND	3x8
208	AE001652	8109230604	SCREW,TAP TITE(B) BIND	3x6
209	AE002618	810F130804	SEMS(F)	3x8
210	BZ710030	8110630804	SCREW,TAP TITE(P) BRAZIER	3x8
211	BZ710018	8107630804	SCREW,TAP TITE(S) BRAZIER	3x8
212	AD301968	8107230404	SCREW,TAP TITE(S) BIND	3x4

DVD DECK REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
600	AE002905	A5J501C650	DVD MECHA ASS'Y	A5J501C650
601	AD301822	92P100022A	TRAVERSE HOLDER	
602	AE002480	92P100080A	RACK,FEED 1A	
603	AE002481	92P100081A	RACK,FEED 2A	
604	AD301825	92P100035A	LEVER,RACK FEED	
605	AD301826	92P200006A	INSULATOR(F)	
606	AD301827	92P200007A	INSULATOR(R)	
607	AD301846	92P100029A	GEAR,FEED	
608	AE001179	92P300009A	SPRING,RACK L	
609	AD301845	92P100028A	GEAR,MIDDLE 3	
610	AE002482	92P300019A	SPRING,RACK FEED 1A	
611	AE002179	92P100040A	ARM,IDLER 2	
612	AD301833	92P000001A	CLAMPER PLATE	
613	AD301834	92P100019A	RACK,LOADING	
614	AD301835	92P100020A	MAIN FRAME M	
615	AD301836	92P100021A	TRAY	
616	AD301837	92P100023A	GEAR,MAIN	
617	AE002647	92P100082A	CLAMPER 2	
618	AD301839	92P300002A	SPRING,RACK LOADING	
619	AD301840	92P400002A	MAGNET,CLAMPER	
620	AD301847	92P100030A	GEAR,IDLER	
621	AD301842	92P100025A	GEAR,MOTOR	
622	AE002180	92P100083A	GEAR,MIDDLE 1	
623	AD301844	92P100027A	GEAR,MIDDLE 2	
701	BZ710187	8110226804	SCREW,TAP TITE(P) BIND	2.6x8
702	AD301851	8110120604	SCREW,TAP TITE(P) PAN	2x6
703	AD301852	8107220504	SCREW,TAP TITE(S) BIND	2x5
704	AD301853	8140117254	SCREW,PAN	M1.7x2.5 P3
705	AD301913	8110220804	SCREW,TAP TITE(P) BIND	2x8
CD2001	AD301855	122H0O1901	CORD JUMPER	2H0O1901
CD2301	AD301856	122H080701	CORD JUMPER	2H080701
CD2302	AE000148	06CH232101	CORD CONNECTOR	CH232101
CP1	AD301858	069JV80180	CONNECTOR PCB SIDE	IMSA-9615S-08C-PP-A
⚠ M2602	AD301861	1515S98001	FEED MOTOR	BCD3B81
PCB640	AD301862	A5E601V640	PCB ASS'Y	BEC001A
PCB68A	AD301863	A5E601V680	PCB ASS'Y	BEC002A
SW1	AD301866	0515S32001	SWITCH	SSS-23-6
SW2	AE001158	0500101036	PUSH SWITCH	ESE22MH22

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
		RESISTORS		
R408	BZ210087	R3X18A221J	R,METAL OXIDE	220 OHM 2W
R430	AE001073	R3X18A331J	R,METAL OXIDE	330 OHM 2W
R447	BZ210185	R65582151J	R,FUSE	150 OHM 1/2W
R448	AD300043	R3X181102J	R,METAL OXIDE	1K OHM 1W
R450	AD301700	R635814R7J	R,FUSE	4.7 OHM 1W
R802	BZ210099	R3X181153J	R,METAL OXIDE	15K OHM 1W
⚠R805	BZ210099	R3X181153J	R,METAL OXIDE	15K OHM 1W
⚠R807	AD300651	R002T4272J	RC	2.7K OHM 1/4W
R810	BZ210099	R3X181153J	R,METAL OXIDE	15K OHM 1W
R2344	AE002014	R002021R2J	RC	1.2 OHM 1/2W
R2345	AE002014	R002021R2J	RC	1.2 OHM 1/2W
R3035	AD302347	R3X181120J	R,METAL OXIDE	12 OHM 1W
R3050	AE000901	R00202220J	RC	22 OHM 1/2W
⚠R3801	BZ210206	R002T2155J	RC	1.5M OHM 1/2W
R3803	AE001075	R5X34E5R6J	R,CEMENT	0 5.6 OHM 7W
R3805	BZ210048	R3X181R33J	R,METAL OXIDE	0.33 OHM 1W
R3806	BZ210190	R63581R22J	R,FUSE	0.22 OHM 1W
⚠R3812	AE003981	R002T2680J	RC	68 OHM 1/2W
R3813	AE000608	R3X28B104J	R,METAL	100K OHM 3W
R3819	AD301973	R3X28BR22J	R,METAL	0.22 OHM 3W
R3823	AE001074	R3X28B1R5J	R,METAL	1.5 OHM 3W
R3827	AD301315	R3X18A1R2J	R,METAL OXIDE	1.2 OHM 2W
		CAPACITORS		
C405	BZ110101	E5EZF3222M	CE	2200 UF 25V
C421	BZ110055	E5EZF4102M	CE	1000 UF 35V
C423	AD300663	P4J7F3334J	CMPP	0.33 UF 250V PMS
C424	AE001322	P4N8FJ842H	CMPP	0.0084UF 1.25KV
C450	AE000029	C0PLRR7H2K	CC	220 PF 2KV R
C801	BZ110226	C0JBB07H3K	CC	0.0022UF 2KV B
C3012	BZ110154	E02L00102M	CE	1000 UF 6.3V
C3027	AE003427	CQG0B04H3K	CC	0.0022UF 50V B
C3801	BZ110025	P2122B224M	CMP	0.22 UF 275V ECQUL
C3804	AE000029	C0PLRR7H2K	CC	220 PF 2KV R
C3807	AE000029	C0PLRR7H2K	CC	220 PF 2KV R
C3809	BZ110219	C0PLRR7Q2K	CC	470 PF 2KV R
C3810	BZ110219	C0PLRR7Q2K	CC	470 PF 2KV R
C3814	BZ110251	E52D0H221M	CE	220 UF 400V
C3817	BZ110038	C0JFE0514M	CC	0.01 UF 500V E
C3818	AE000029	C0PLRR7H2K	CC	220 PF 2KV R
C3822	AD301108	CD39E0MH3M	CC	0.0022UF 250V
C3829	BZ110252	C0J0B05Q2K	CC	470 PF 500V B
C3831	BZ110130	E62NFC221M	CE	220 UF 200V
C3832	AD300125	E5EZF2222M	CE	2200 UF 16V
C3835	BZ110101	E5EZF3222M	CE	2200 UF 25V
C3836	AE001065	E5EZ01222M	CE	2200 UF 10V
		DIODES		
D101	BZ410087	0021E2Q140	LED	LTL-1CHEE-002A
D102	BZ410020	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D103	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D104	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D105	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D107	BZ410037	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D108	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D110	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D111	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D112	BZ410020	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D113	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D117	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D403	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
D404	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
D405	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
D406	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
D407	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
D411	AD300731	D2WXN49370	DIODE,SILICON	1N4937
D413	AD300731	D2WXN49370	DIODE,SILICON	1N4937
D602	AD300731	D2WXN49370	DIODE,SILICON	1N4937
D603	BZ410043	D2WT011E10	DIODE,SILICON	11E1-EIC
D604	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D801	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D802	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D803	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D2601	BZ410121	DDARDS1200	DIODE,SILICON	KDS120RTK
D3001	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D3004	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D3005	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3006	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3008	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
		DIODES		
D3009	BZ410033	D28T21DQN4	DIODE,SCHOTTKY	21DQ04N-TA2B1
D3011	BZ410033	D28T21DQN4	DIODE,SCHOTTKY	21DQ04N-TA2B1
D3801	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3802	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
D3803	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
D3804	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
D3805	BZ410062	D2WTRM11C0	DIODE,SILICON	RM11C-EIC
D3806	AD300731	D2WXN49370	DIODE,SILICON	1N4937
D3807	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3808	BZ410080	D2WXRU2AM0	DIODE,SILICON	RU2AM-EIC
D3809	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3812	BZ410021	D97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D3813	BZ410080	D2WXRU2AM0	DIODE,SILICON	RU2AM-EIC
D3814	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3815	BZ410010	D28T21DQN9	DIODE,SCHOTTKY	21DQ09N-TA2B1
D3819	BZ410115	D2LKB340L0	DIODE,SCHOTTKY	SB340L-6737
D3820	AE001064	D28F31DQ09	DIODE,SCHOTTKY	31DQ09-FC
D3821	AE001064	D28F31DQ09	DIODE,SCHOTTKY	31DQ09-FC
D3823	AD300731	D2WXN49370	DIODE,SILICON	1N4937
D3824	AD300670	D97U01501B	DIODE,ZENER	MTZJ15B T-77
D4001	BZ410119	DDDRL41480	DIODE,SILICON	MCL4148
D4207	AD300070	D97U01201B	DIODE,ZENER	MTZJ12B T-77
		ICS		
IC101	AE003428	I5PD0F017A	IC	OECF017A
IC102	AD301641	I9UF032310	IC	PST3231NR
IC199	AE003429	A5M202W255	IC	S-24C08ADPA-01
IC301	AE001068	I0FSP7523N	IC	AN7523N
IC302	AE001068	I0FSP7523N	IC	AN7523N
IC401	BZ611081	I0WTD81740	IC	TDA8174A
IC601	AE002386	I0WDE2246H	IC	STV2246H
IC602	AE001069	I0UF015020	IC	MM1502XNRE
IC2301	BZ611126	I03F065600	IC	LA6560
IC2601	AE002837	ICQK067080	IC	ZR36708TQC
IC2602	AD301770	I07E00358F	IC	BA10358F-E2
IC3001	AE001070	I1KA98R06A	IC	KIA78R06API
IC3002	AE001066	I03F6324N0	IC	LA6324NML-TE-L
IC3801	AE000604	I2BT068530	IC	STR-W6853
IC3804	AD301771	000220001W	PHOTO COUPLER	PS2561L1-1-V(W)
IC4001	AE000842	ICQK067620	IC	ZR36762
IC4002	AE002137	ICRJ0C04N0	IC	AT24C04N-10SI-2.7
IC4003	BZ611130	I0GF9XZ010	IC	PQ070XZ01ZP
IC4005	AE000843	IF9J0164A7	IC	M12L64164A-7T
IC4007	AE002836	ICMJ0800A8	IC	SST39VF800A-70-4C-EK-D
IC4201	AE001295	I0QJ045800	IC	NJM4580M(TE1)
IC4202	AE001067	I07S0644AN	IC	BA7644AN
IC4203	AE001067	I07S0644AN	IC	BA7644AN
IC4204	AD301988	I0UF015010	IC	MM1501XNRE
IC4205	AD301988	I0UF015010	IC	MM1501XNRE
IC4206	AD301988	I0UF015010	IC	MM1501XNRE
IC8502	AE002835	I17F02KEG0	IC	PCM1742KEG/2K
		TRANSISTORS		
Q101	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q102	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q103	BZ510001	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q301	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q303	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q304	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q405	BZ510097	TCAT03227Y	TRANSISTOR,SILICON	KTC3227_Y-AT
Q406	AE000656	TC1G058850	TRANSISTOR,SILICON	2SC5885
Q605	AD300734	T8AA03881S	TRANSISTOR,SILICON	KTC3881S-RTK
Q606	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q607	BZ510025	TPYJB05001	COMPOUND TRANSISTOR	DTA114EKAT146
Q608	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q609	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q610	BZ510001	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q611	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
⚠Q804	BZ510009	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC
⚠Q805	BZ510009	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC
⚠Q806	BZ510009	TC3F042170	TRANSISTOR,SILICON	2SC4217(D,E)-RAC
Q2601	BZ510112	T67J1036K0	TRANSISTOR,SILICON	2SA1036KT146
Q2602	BZ510112	T67J1036K0	TRANSISTOR,SILICON	2SA1036KT146
Q2603	BZ510113	T27T030180	FET	2SK3018
Q2604	BZ510113	T27T030180	FET	2SK3018
Q2605	BZ510113	T27T030180	FET	2SK3018
Q3001	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q3002	BZ510073	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
Q3003	AD301934	TBA0013660	TRANSISTOR,SILICON	KTB1366(O,Y)

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
			TRANSISTORS	
Q3004	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q3005	AD301934	TBA0013660	TRANSISTOR,SILICON	KTB1366(O,Y)
Q3006	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q3007	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q3008	BZ510057	TAAT01281Y	TRANSISTOR,SILICON	KTA1281_Y
Q3009	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q3010	BZ510060	TB3T011310	TRANSISTOR,SILICON	2SB1131(S,T)-AE
Q3011	BZ510105	TCAT03209Y	TRANSISTOR,SILICON	KTC3209_Y-AT
Q3012	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q3013	BZ510057	TAAT01281Y	TRANSISTOR,SILICON	KTA1281_Y
Q3014	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q3801	BZ510070	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
Q3805	BZ510069	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q3806	BZ510030	TA3T01624E	TRANSISTOR,SILICON	2SA1624E-AA
Q4004	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4201	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4202	BZ510001	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4203	BZ510045	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146
Q4208	BZ510001	T6YJ1037K0	TRANSISTOR,SILICON	2SA1037AKT146R,S
Q4209	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q4210	BZ510081	TPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146
Q4211	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4212	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q4213	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q4214	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q8502	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q8503	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q8504	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
			COILS &TRANSFORMERS	
L101	AD300612	02167F100J	COIL	10 UH
L102	AD300612	02167F100J	COIL	10 UH
L103	AD300612	02167F100J	COIL	10 UH
L401	BZ310004	021679472K	COIL	4.7 MH
L402	AE000020	022800033A	COIL,LINEARITY	20416A
L603	BZ310049	021LA6R22M	COIL	0.22 UH
L604	BZ310077	021LA61R0M	COIL	1 UH
L606	AD300612	02167F100J	COIL	10 UH
L608	AE000290	02167F3R3J	COIL	3.3 UH
L609	AD301445	021LA6100J	COIL	10 UH
L610	BZ310148	033700005R	COIL,VIDEO IFT	3700005
L611	BZ310041	02167F101J	COIL	100 UH
L801	AE001054	021673820K	COIL	82 UH
L3001	BZ310091	021W7A220K	COIL	22 UH
⚠L3800	BZ310155	028R140018	COIL,DEGAUSS	8R140018
L3801	AE000571	029X000109	COIL,LINE FILTER	SS28V-K10410
L3803	BZ310181	02A6B2E0A1	CORE,FERRITE	HF70T22*10*14
L4001	BZ310191	02167F2R2J	COIL	2.2 UH
L4002	BZ310118	02AHB9A972	CORE,FERRITE	W5T29X7.5X19
L4201	BZ310041	02167F101J	COIL	100 UH
L4202	BZ310041	02167F101J	COIL	100 UH
L4205	BZ310056	021673102K	COIL	1 MH
L8502	AE000828	02167F1R0K	COIL	1 UH
L8503	AE000828	02167F1R0K	COIL	1 UH
L8504	AE000828	02167F1R0K	COIL	1 UH
T401	BZ310157	045009003J	TRANS,HORIZONTAL DRIVE	ETH09K14BZ
T3801	AE001055	0481300064	TRANSFORMER,SWITCHING	81300064
			JACKS	
⚠J801	AD301147	066F120018	SOCKET,CATHODE RAY TUBE	ISMS01S
J4201	BZ614400	060J401082	RCA JACK	MSP-251V-05PBSN
J4202	AE003431	060J131016	HEADPHONE JACK	MSJ-2000_AG
J4203	AE002949	060J421036	RCA JACK	MTJ-032-05A-30-FE
J4204	AE002950	060J421037	RCA JACK	MTJ-032-05A-32-FE
J4205	AE002951	060J421030	RCA JACK	MTJ-032-05A-31-FE
J4206	AE002430	063D100050	SOCKET,21PIN	MRC-021V-07_A
			SWITCHES	
SW2201	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2202	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2204	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2206	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2207	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2208	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2209	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2210	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW2211	BZ612010	0504101T34	SWITCH,TACT	EVQ21505R
SW3801	AE000022	0530105018	SWITCH	ESB92S23B
			VARIABLE RESISTORS	
VR401	AE000038	V1K62Q2BT8	VOLUME,SEMI FIXED	NVG6THTB471

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
		VARIABLE RESISTORS		
VR402	BZ210255	V1K62H3BT8	VOLUME,SEMI FIXED	NVG6THTB222
VR3801	BZ210265	V1K63Q2BTE	VOLUME,SEMI FIXED	NVG6TLTAB471
		P.C.BOARD ASSEMBLIES		
PCB110	AE003432	A5M202W110	PCB ASS'Y	TCC435A
PCB130	AE003433	A5M202W130	PCB ASS'Y	BMD004A
PCB250	AE003434	A5M202W250	PCB ASS'Y	TMC574A
		MISCELLANEOUS		
ANT001	BZ614468	125C500025	ANTENNA,LOOP	180PRA-PP-01
B402	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B403	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B2601	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2602	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2603	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2604	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2605	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B3801	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B3802	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B4001	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4002	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4003	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4004	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4005	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4006	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4007	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4008	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4009	BZ310122	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
B4010	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4201	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B8502	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B8503	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
BT001	AE000012	1412004008	BATTERY,MANGAN	R03(AB)E_2P_G
BT002	AE000012	1412004008	BATTERY,MANGAN	R03(AB)E_2P_G
CD301	BZ614324	06CU12414A	CORD,CONNECTOR	CU12414A
CD302	BZ614324	06CU12414A	CORD,CONNECTOR	CU12414A
CD402	AE000585	06CUG06001	CORD,CONNECTOR	CUG06001
CD403	AE000585	06CUG06001	CORD,CONNECTOR	CUG06001
CD802	BZ614404	WDL6032038	FLAT CABLE	AWM2468 AWG26 6C BLACK 320MM
CD803	BZ614340	WBL6028038	FLAT CABEL	AWM2468 AWG26 4C BLACK 280MM
CD805	BZ614175	06CU82039A	CORD,CONNECTOR	SM1098-009-1A
CF602	BZ613010	1012T04101	FILTER,CERAMIC TRAP	MKT41.5MA110P
CF606	BZ613039	102E239R5B	FILTER SAW	J1951M
CF609	AE000945	1012T6R014	FILTER,CERAMIC TRAP	TPSRA6M00B00-A0
CP101	BZ614242	069S260629	CONNECTOR PCB SIDE	A2001WV2-6P
CP301	BZ614268	069W120029	CONNECTOR PCB SIDE	TID-X02P-M1
CP302	BZ614268	069W120029	CONNECTOR PCB SIDE	TID-X02P-M1
CP402	BZ614303	069S450089	CONNECTOR PCB SIDE	A1561WV2-A5P
CP801	BZ614269	069S320010	CONNECTOR PCB SIDE	A2361WV2-2P
CD3802	BZ614327	06CUU23001	CORD,CONNECTOR	CUU23001
⚠CD3803	AE001060	1206435801	CORD,AC BUSH	6435801
CD4002	BZ614299	06CU2B2001	CORD,CONNECTOR	CU2B2001
CD8501	AD301792	122H0C1001	CORD,JUMPER	2H0C1001
CP2601	AD302396	069JYOT099	CONNECTOR PCB SIDE	IMSA-9631S-24Y901
CP2602	AD301858	069JV80180	CONNECTOR PCB SIDE	IMSA-9615S-08C-PP
CP2603	AD301795	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P
CP3801	AD300687	069S420110	CONNECTOR PCB SIDE	A1561WV2-2P
CP3802	BZ614176	069S320419	CONNECTOR PCB SIDE	A3963WV2-3PD
CP8001	BZ614214	069S2B0629	CONNECTOR PCB SIDE	A2001WV2-11P
CP8002	AD301797	069J7C0029	CONNECTOR PCB SIDE	IMSA-9604S-12Z14
CP802A	BZ614333	067U006049	WIRE HOLDER	B2013H02-6P
CP802B	BZ614333	067U006049	WIRE HOLDER	B2013H02-6P
CP803A	BZ614334	067U004029	WIRE HOLDER	B2013H02-4P
CP803B	AE001056	069R240589	CONNECTOR PCB SIDE	52147-0410
CP8502	AD301798	069J7C0019	CONNECTOR PCB SIDE	IMSA-9604S-12Z13
EL001	BZ614044	124120301A	EYE LET	XRY20X30BD
EL002	BZ614043	124116281A	EYE LET	XRY16X28BD
F3801	AE001059	080NT05004	FUSE	50T050H
FB401	AD301650	043214037F	TRANSFORMER,FLYBACK	FNI-14B001
FH3801	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
FH3802	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
OS101	BZ614199	077Q004017	REMOTE RECEIVER	PIC-37243SR
RY3801	AD300114	0560V20115	RELAY	ALKS321
SP301	BZ614200	070C533019	SPEAKER	SG04D11BNA
SP302	BZ614200	070C533019	SPEAKER	SG04D11BNA
TM101	AE001058	076D0HF010	TRANSMITTER	ORV203N12010
TU101	AE000013	0144507035	TUNER,UHF	TUWRF4EK-778F2A
TH3801	BZ410050	D8R0A140M0	DEGAUSS ELEMENT	PTDAA1BF140M200
⚠V801	BZ614442	098Y1404C8	CRT W/DY	A34JXV70X73N45

ELECTRICAL REPLACEMENT PARTS LIST

Location No.	TSB P/N	Reference No.		Description
			MISCELLANEOUS	
X101	AE000295	100CT4R013	CRYSTAL	HC-49/U-S
X601	BZ613024	100CT4R408	CRYSTAL	HC-49/U
X4001	AD301803	100BT02701	CRYSTAL	HC-49U/S

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR
CE..... ALUMI ELECTROLYTIC CAPACITOR
CP..... POLYESTER CAPACITOR
CPP..... POLYPROPYLENE CAPACITOR
CPL..... PLASTIC CAPACITOR
CMP..... METAL POLYESTER CAPACITOR
CMPL..... METAL PLASTIC CAPACITOR
CMPP..... METAL POLYPROPYLENE CAPACITOR

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